

# Service Manual

**Pioneer**

DEH-P4350/X1N/ES



ORDER NO.  
**CRT2576**

MULTI-CD CONTROL HIGH POWER CD PLAYER WITH FM/AM TUNER

# DEH-P4350

**X1N/ES**

# DEH-P3350

**X1N/ES**

# DEH-P3350B

**X1N/ES**

**COMPACT**  
**disc**  
**DIGITAL AUDIO**

● This service manual should be used together with the following manual(s):

Model No.	Order No.	Mech. Module	Remarks
CX-958	CRT2423	S8.1	CD Mech. Module:Circuit Description, Mech. Description, Disassembly

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**PIONEER ELECTRONICS ASIACENTRE PTE.LTD.** 253 Alexandra Road, #04-01, Singapore 159936

### ● CD Player Service Precautions

1. For pickup unit(CXX1285) handling, please refer to "Disassembly"(see page 49).  
During replacement, handling precautions shall be taken to prevent an electrostatic discharge(protection by a short pin).
2. During disassembly, be sure to turn the power off since an internal IC might be destroyed when a connector is plugged or unplugged.
3. Please checking the grating after changing the service pickup unit(see page 43).

## 1. SAFETY INFORMATION

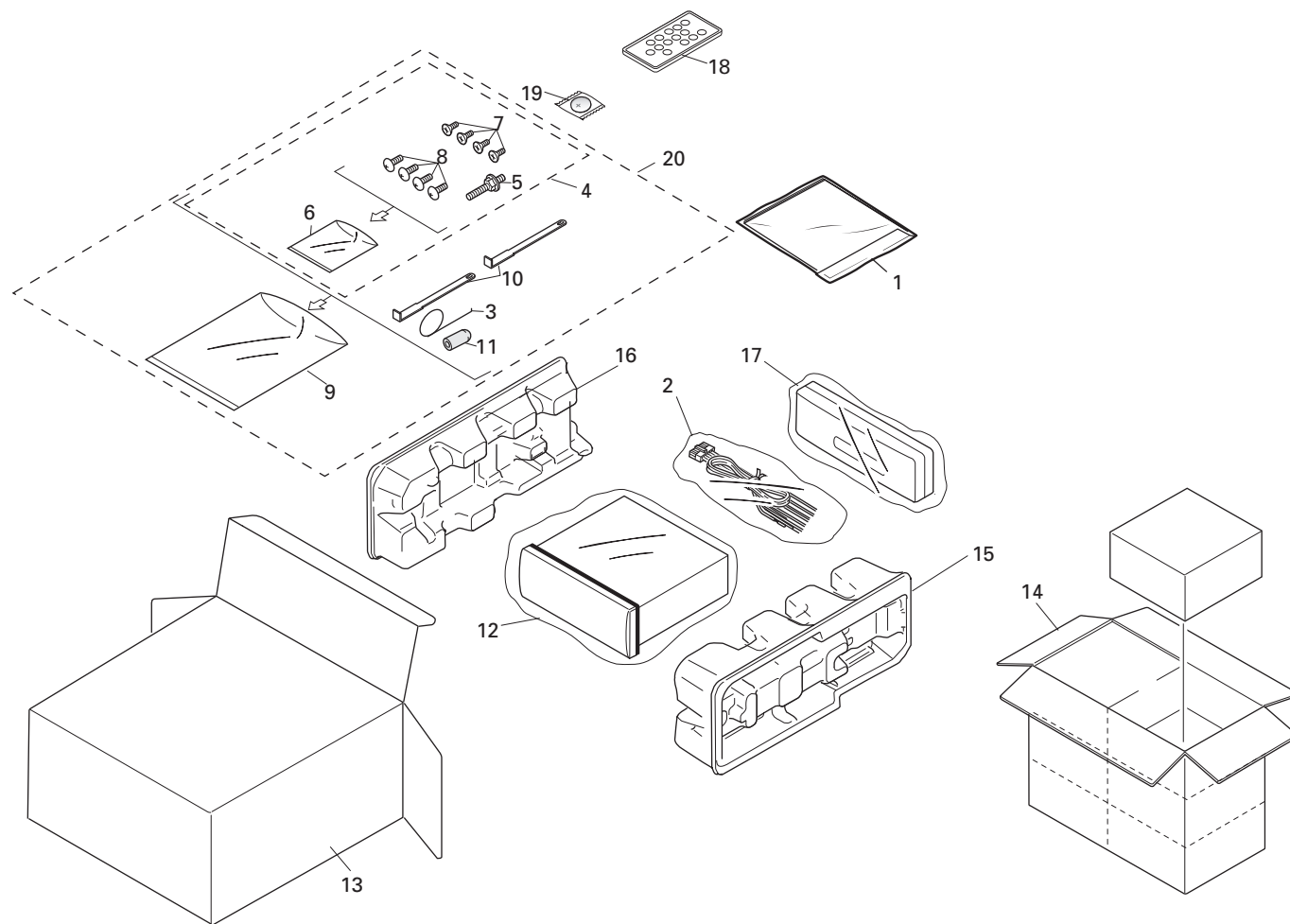
This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer.

Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely; you should not risk trying to do so and refer the repair to a qualified service technician.

## 2. EXPLODED VIEWS AND PARTS LIST

### 2.1 PACKING



**NOTE:**

- Parts marked by “\*” are generally unavailable because they are not in our Master Spare Parts List.
- Screws adjacent to ∇ mark on the product are used for disassembly.

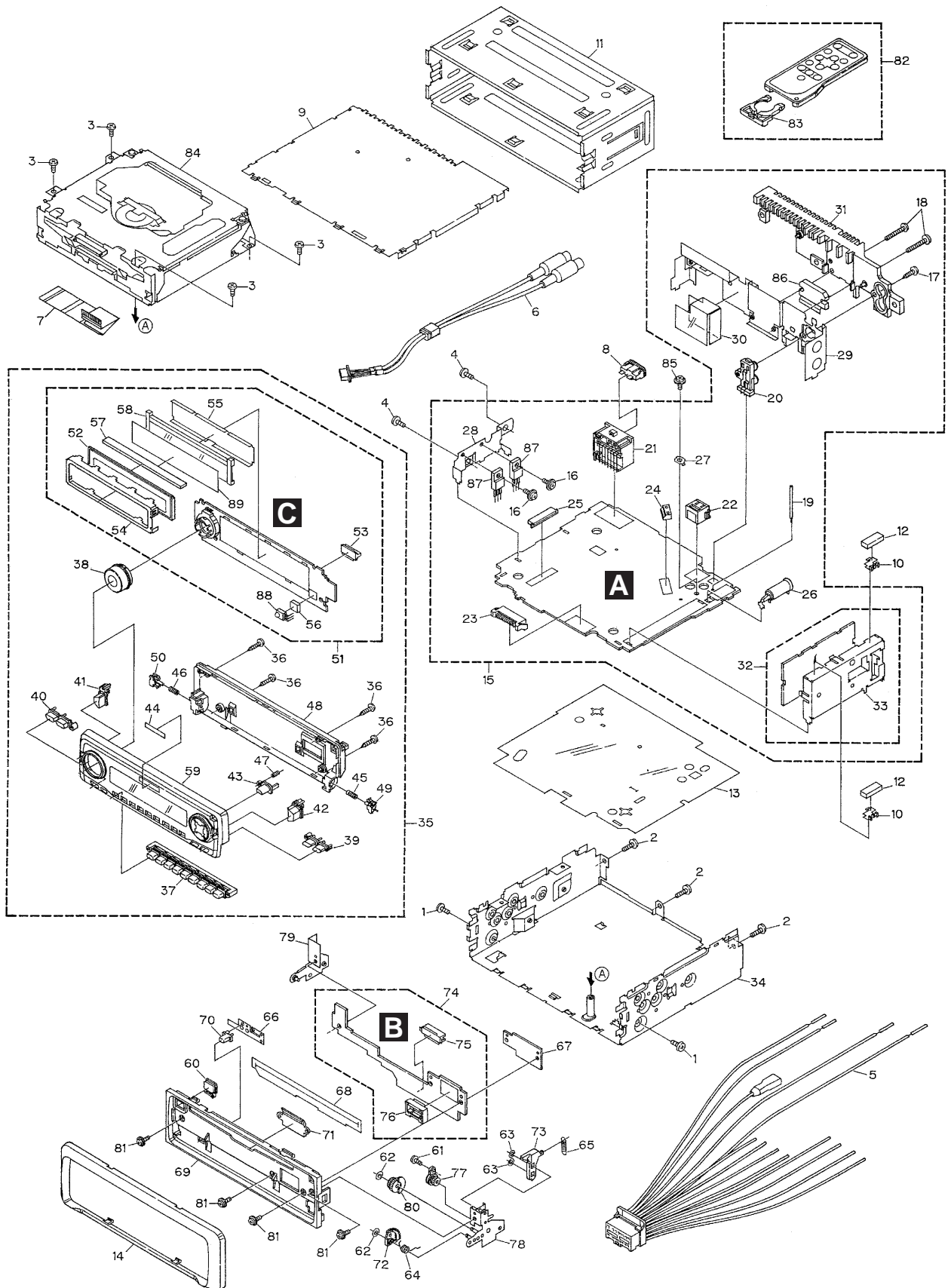
**● PACKING SECTION PARTS LIST**

Mark No.	Symbol and Description	Part No.		
		DEH-P4350/X1N/ES	DEH-P3350/X1N/ES	DEH-P3350B/X1N/ES
1-1	Owner's Manual	CRD3302	CRD3302	CRD3302
1-2	Owner's Manual	CRD3303	CRD3303	CRD3303
* 1-3	Owner's Manual	CRB1630	CRB1630	Not used
1-4	Installation Manual	CRD3312	CRD3312	CRD3312
1-5	Polyethylene Bag	CEG1116	CEG1116	CEG1116
* 1-6	Caution Card	CRP1241	CRP1241	CRP1241
2	Cord Assy	CDE6436	CDE6436	CDE6436
3	Spring	CBH1650	CBH1650	CBH1650
* 4	Screw Assy	CEA2396	CEA2396	CEA2396
5	Screw	CBA1002	CBA1002	CBA1002
* 6	Polyethylene Bag	CEG-127	CEG-127	CEG-127
7	Screw	CRZ50P090FMC	CRZ50P090FMC	CRZ50P090FMC
8	Screw	TRZ50P080FMC	TRZ50P080FMC	TRZ50P080FMC
* 9	Polyethylene Bag	CEG-158	CEG-158	CEG-158
10	Handle	CNC5395	CNC5395	CNC5395
11	Bush	CNV3930	CNV3930	CNV3930
12	Polyethylene Bag	CEG-162	CEG-162	CEG-162
13	Carton	CHG4262	CHG4268	CHG4269
14	Contain Box	CHL4262	CHL4268	CHL4269
15	Protector	CHP2251	CHP2251	CHP2251
16	Protector	CHP2252	CHP2252	CHP2252
17	Case Assy	CXB3520	CXB3520	CXB3520
18	Remote Control Unit	CXB6797	Not used	Not used
* 19	Battery	CEX1065	Not used	Not used
* 20	Accessory Assy	CEA2395	CEA2395	CEA2395

**● Owner's Manual, Installation Manual**

Model	Part No.	Language
DEH-P4350/X1N/ES	CRD3302	English, Spanish, Portuguese(B)
DEH-P3350/X1N/ES	CRD3303	Arabic
DEH-P3350B/X1N/ES	CRD3312	English, Spanish, Portuguese(B), Arabic
DEH-P4350/X1N/ES	CRB1630	Chinese
DEH-P3350/X1N/ES		

## 2.2 EXTERIOR



(1) EXTERIOR SECTION PARTS LIST

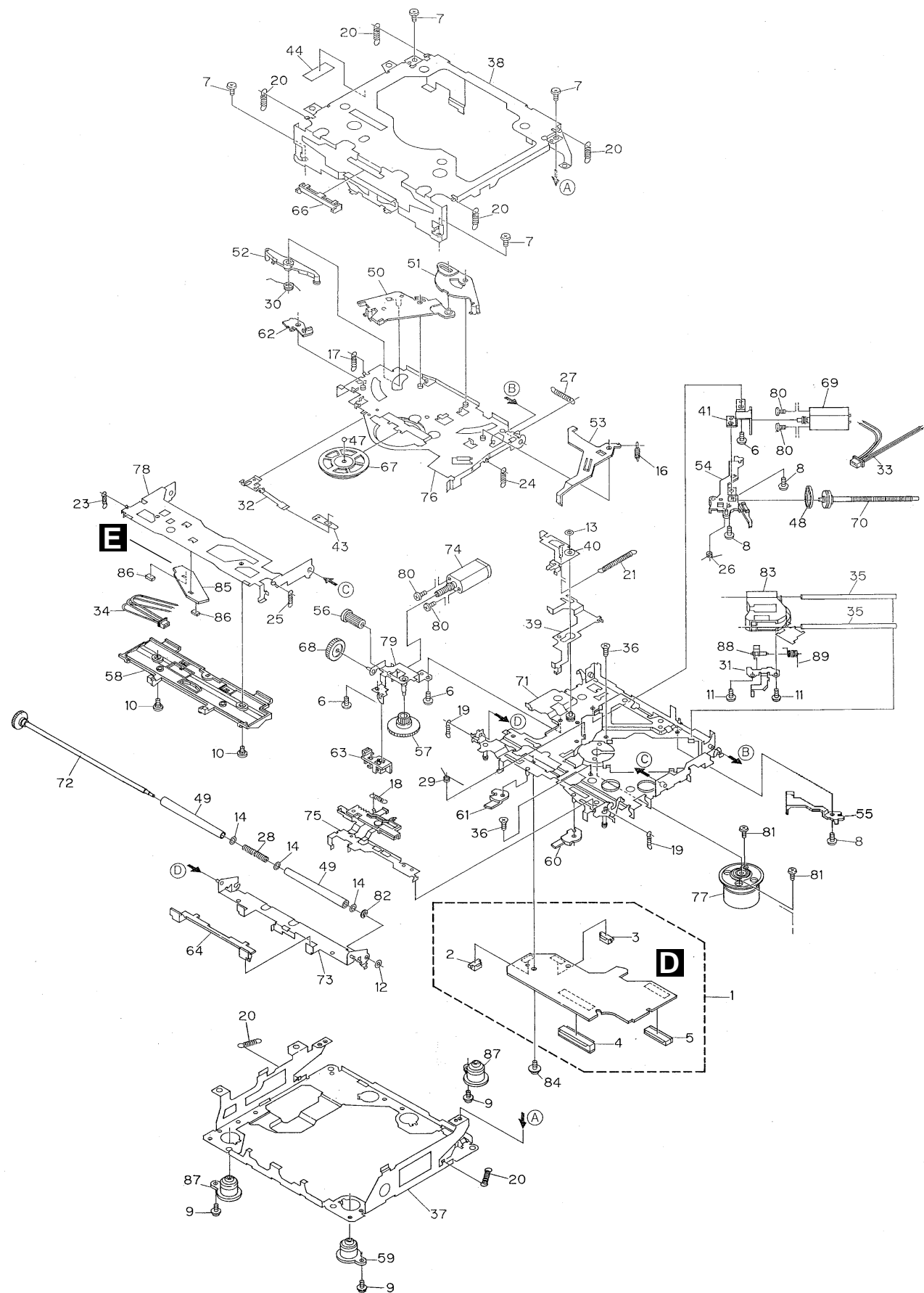
Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Screw	BMZ30P040FZK	46	Spring	CBH2431
2	Screw	BMZ30P100FMC	47	Spring	CBH2491
3	Screw	BSZ26P060FMC	48	Cover	CNS6282
4	Screw	BSZ30P060FMC	49	Holder	CNV6505
5	Cord Assy	CDE6436	50	Holder	CNV6506
6	Cord Assy	See Contrast table(2)	51	Keyboard Unit	See Contrast table(2)
7	Cable	CDE6444	52	LCD	See Contrast table(2)
8	Fuse(10A)	CEK1136	53	Connector(CN1901)	CKS4205
9	Case	CNB2686	54	Holder	CNC9053
10	Holder	CNC5704	55	Sheet	CNM6969
11	Holder	CNC8659	56	Cushion	See Contrast table(2)
12	Cushion	CNM4870	57	Connector	CNV6440
13	Insulator	CNM6948	58	Lighting Conductor	CNV6441
14	Panel	CNS6332	59	Sub Grille Assy	See Contrast table(2)
15	Tuner Amp Unit	See Contrast table(2)	60	Button(EJECT)	CAC6839
16	Screw	ASZ26P060FMC	61	Screw(M2x2)	CBA1176
17	Screw	BPZ26P100FMC	62	Washer	CBF1038
18	Screw	BSZ26P160FMC	63	Washer	CBF1039
19	Clamper	See Contrast table(2)	64	Spring	CBH2428
20	Pin Jack(CN351)	CKB1035	65	Spring	CBH2429
21	Plug(CN901)	CKM1330	66	Spring	CBL1512
22	Connector(CN701)	CKS3408	67	Holder	CNC9096
23	Plug(CN750)	CKS3537	68	Cover	CNM6854
24	Connector(CN331)	See Contrast table(2)	69	Panel	CNS6278
25	Connector(CN501)	CKS4398	70	Pin	CNV6486
26	Antenna Jack(CN402)	CKX1056	71	Lighting Conductor	CNV6487
27	Holder(CN403)	CNC5399	72	Gear	CNV6507
28	Holder	CNC8615	73	Arm	CNV6508
29	Holder	See Contrast table(2)	74	Panel Unit	CWM7375
30	Insulator	CNM6949	75	Socket(CN1950)	CKS3550
31	Heat Sink	CNR1583	76	Connector(CN1951)	CKS4206
32	FM/AM Tuner Unit	CWE1563	77	Damper Unit	CXB5070
33	Holder	CNC8815	78	Holder Unit	CXB6356
34	Chassis Unit	CXB6100	79	Holder Unit	CXB6357
35	Detach Grille Assy	See Contrast table(2)	80	Clutch Unit	CXB6358
36	Screw	BPZ20P100FZK	81	Screw	IMS20P045FZK
37	Button(1-6)	CAC6773	82	Remote Control Unit	See Contrast table(2)
38	Knob(VOLUME)	CAC6775	83	Cover	See Contrast table(2)
39	Button(FUNC/AUDIO)	CAC6776	84	CD Mechanism Module(S8.1)	CXK5201
40	Button(SOURCE/DISP)	CAC6777	85	Screw	ISS26P055FUC
41	Button(EQ)	CAC6778	86	IC(IC361)	PAL006A
42	Button(SFEQ)	CAC6779	87	Transistor(Q510,Q910)	2SD2396
43	Button(OPEN)	CAC6780	88	IC(IC1902)	See Contrast table(2)
* 44	Badge	CAH1754	89	Film	See Contrast table(2)
45	Spring	CBH2430			

**(2) CONTRAST TABLE**

**DEH-P4350/X1N/ES, DEH-P3350/X1N/ES and DEH-P3350B/X1N/ES are constructed the same except for the following:**

Mark No.	Symbol and Description	Part No.		
		DEH-P4350/X1N/ES	DEH-P3350/X1N/ES	DEH-P3350B/X1N/ES
6	Cord Assy	CDE6494	Not used	Not used
15	Tuner Amp Unit	CWM7376	CWM7383	CWM7676
19	Clamper	CEF1007	Not used	Not used
24	Connector(CN331)	CKS3598	Not used	Not used
29	Holder	CNC9470	CNC9472	CNC9472
35	Detach Grille Assy	CXB6288	CXB6295	CXB7019
51	Keyboard Unit	CWM7398	CWM7405	CWM7681
52	LCD	CAW1626	CAW1628	CAW1679
56	Cushion	CNM6984	Not used	Not used
59	Sub Grille Assy	CXB7155	CXB7163	CXB7162
82	Remote Control Unit	CXB6797	Not used	Not used
83	Cover	CNS6439	Not used	Not used
88	IC(IC1902)	SBX8035-H	Not used	Not used
89	Film	Not used	Not used	CNM6983

2.3 CD MECHANISM MODULE





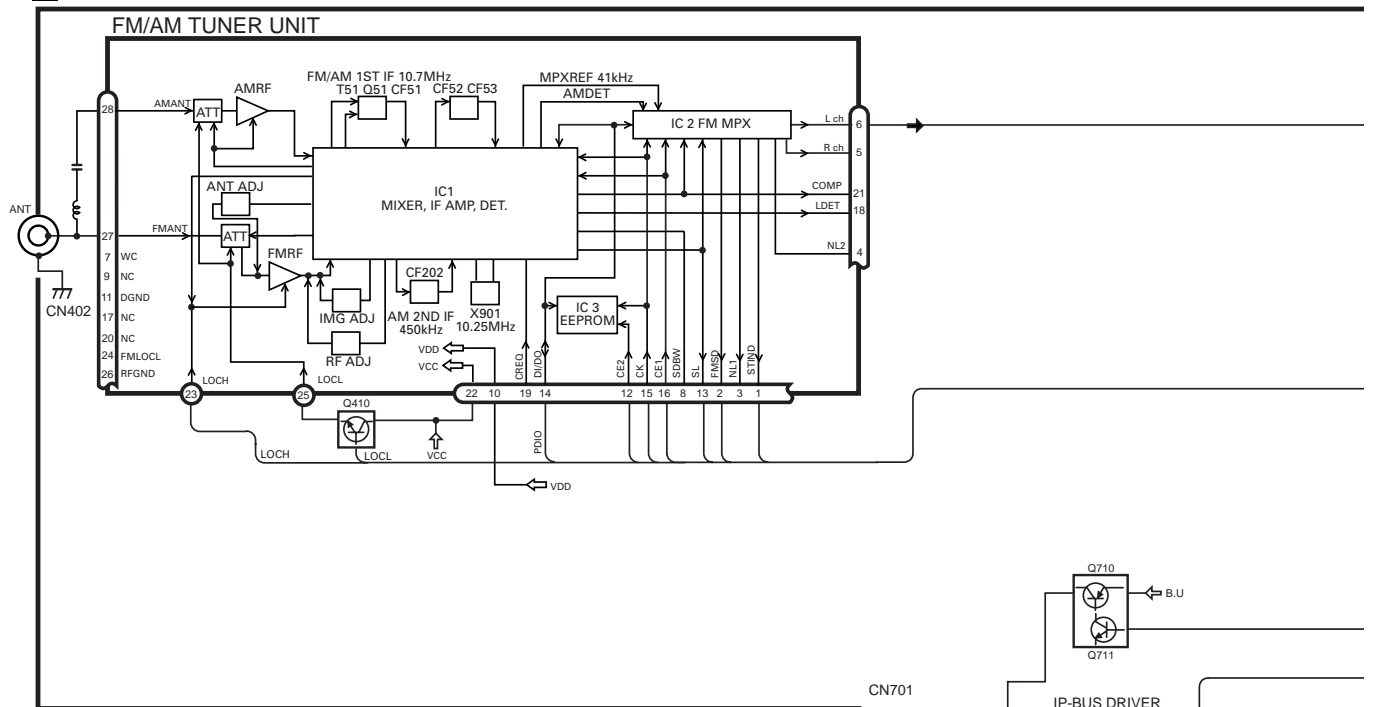
# ● CD MECHANISM MODULE SECTION PARTS LIST

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Control Unit	CWX2411	46	.....	
2	Connector(CN802)	CKS2192	47	Ball	CNR1189
3	Connector(CN801)	CKS2193	48	Belt	CNT1086
4	Connector(CN701)	CKS2773	49	Roller	CNV4509
5	Connector(CN101)	CKS3486	50	Arm	CNV6037
6	Screw	BMZ20P030FMC	51	Arm	CNV5247
7	Screw	BSZ20P040FMC	52	Arm	CNV5248
8	Screw(M2x3)	CBA1077	53	Arm	CNV5249
9	Screw(M2x5)	EBA1028	54	Guide	CNV5254
10	Screw	CBA1243	55	Guide	CNV5255
11	Screw(M2x4)	CBA1362	56	Gear	CNV5257
12	Washer	CBF1037	57	Gear	CNV5256
13	Washer	CBF1038	58	Guide	CNV6272
14	Washer	CBF1060	59	Damper	CNV6010
15	.....		60	Arm	CNV6096
16	Spring	CBH2079	61	Arm	CNV6031
17	Spring	CBH2117	62	Arm	CNV6211
18	Spring	CBH2314	63	Guide	CNV6012
19	Spring	CBH2110	64	Guide	CNV5510
20	Spring	CBH2282	65	.....	
21	Spring	CBH2318	66	Guide	CNV5751
22	.....		67	Clamper	CNV6013
23	Spring	CBH2324	68	Gear	CNV5813
24	Spring	CBH2118	69	Motor Unit(M1)	CXB2190
25	Spring	CBH2161	70	Screw Unit	CXB5892
26	Spring	CBH2163	71	Chassis Unit	CXB4797
27	Spring	CBH2189	72	Gear Unit	CXB4728
28	Spring	CBH2377	73	Arm Unit	CXB5753
29	Spring	CBH2260	74	Motor Unit(M2)	CXB2195
30	Spring	CBH2262	75	Lever Unit	CXB4730
31	Bracket	CNC8568	76	Arm Unit	CXB4731
32	Spring	CBL1531	77	Motor Unit(M3)	CXB2562
33	Connector	CDE5531	78	Arm Unit	CXB4732
34	Connector	CDE5532	79	Bracket Unit	CXB4795
35	Shaft	CLA3894	80	Screw	JFZ20P025FMC
36	Screw(M2.6x6)	CBA1458	81	Screw	JGZ17P025FZK
37	Frame	CNC8565	82	Washer	YE20FUC
38	Frame	CNC8749	83	Pickup Unit(Service)(P8)	CXX1285
39	Lever	CNC9265	84	Screw	IMS26P030FMC
40	Arm	CNC8663	* 85	PCB	CNX2982
41	Bracket	CNC8567	86	Photo-transistor(Q1, 2)	CPT230SX-TU
42	.....		87	Damper	CNV6011
43	Spacer	CNM3315	88	Rack	CNV6014
44	Sheet	CNM6659	89	Spring	CBH2315
45	.....				

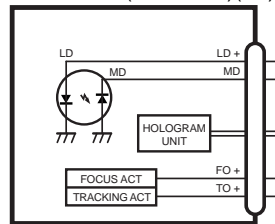
### 3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

#### 3.1 BLOCK DIAGRAM

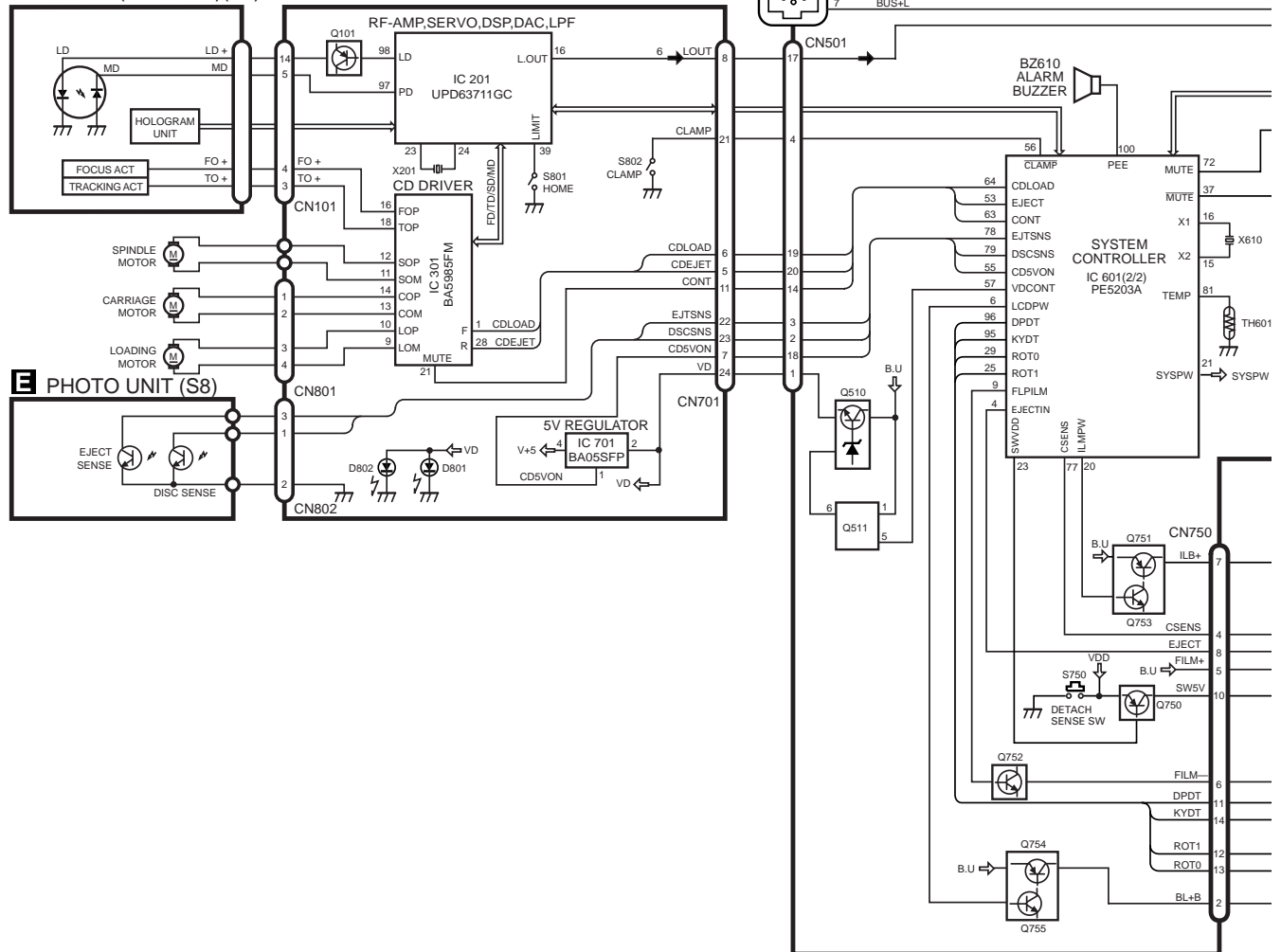
##### A TUNER AMP UNIT



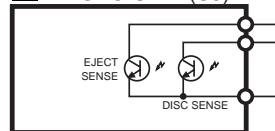
##### B PICKUP UNIT(SERVICE)(P8)

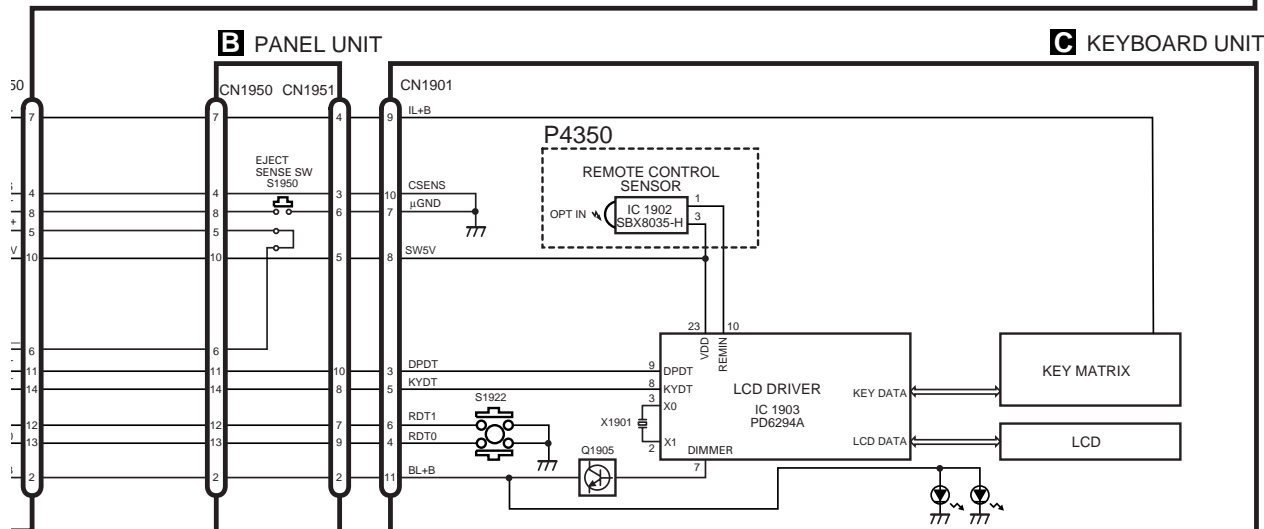
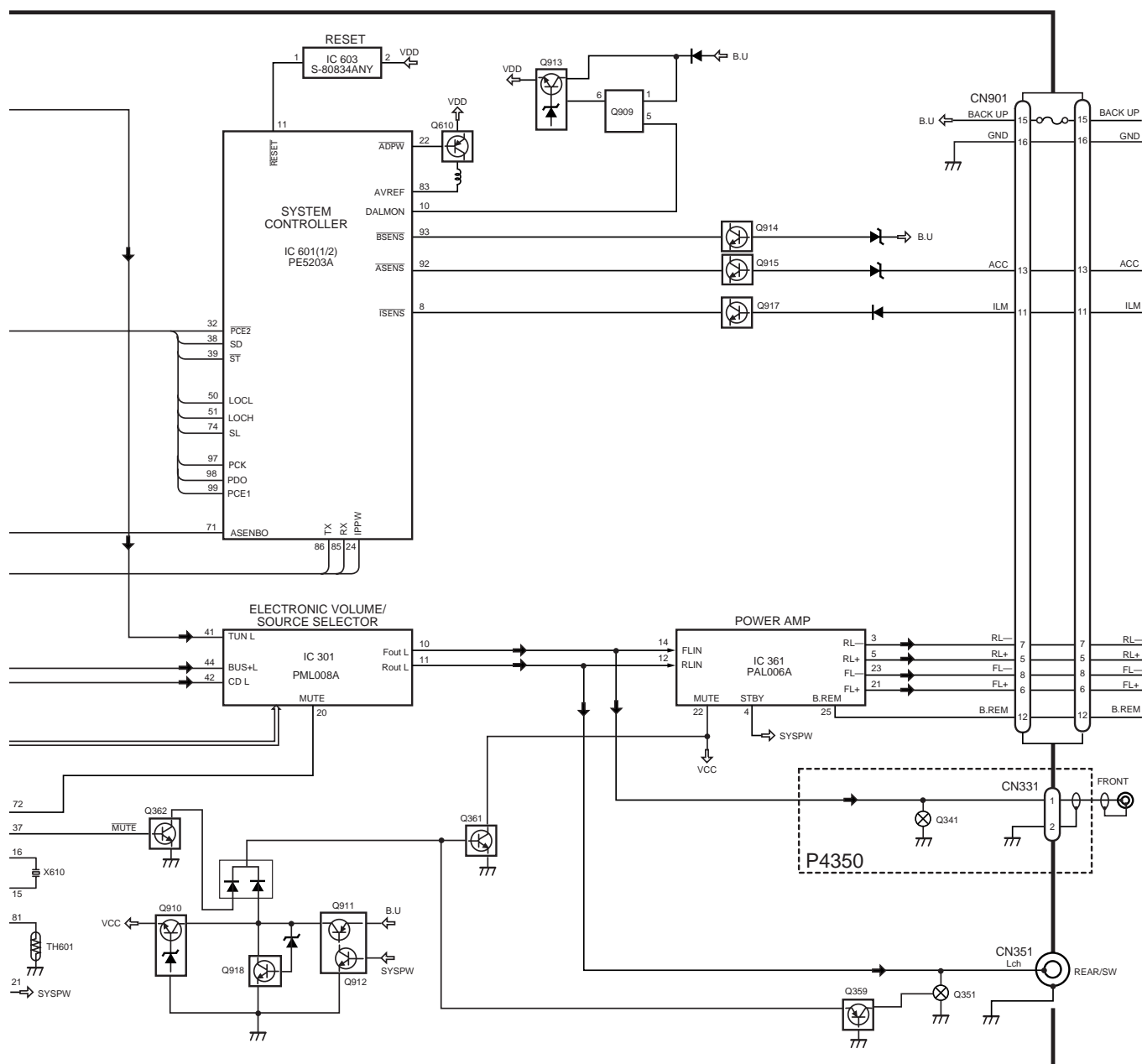


##### C CONTROL UNIT



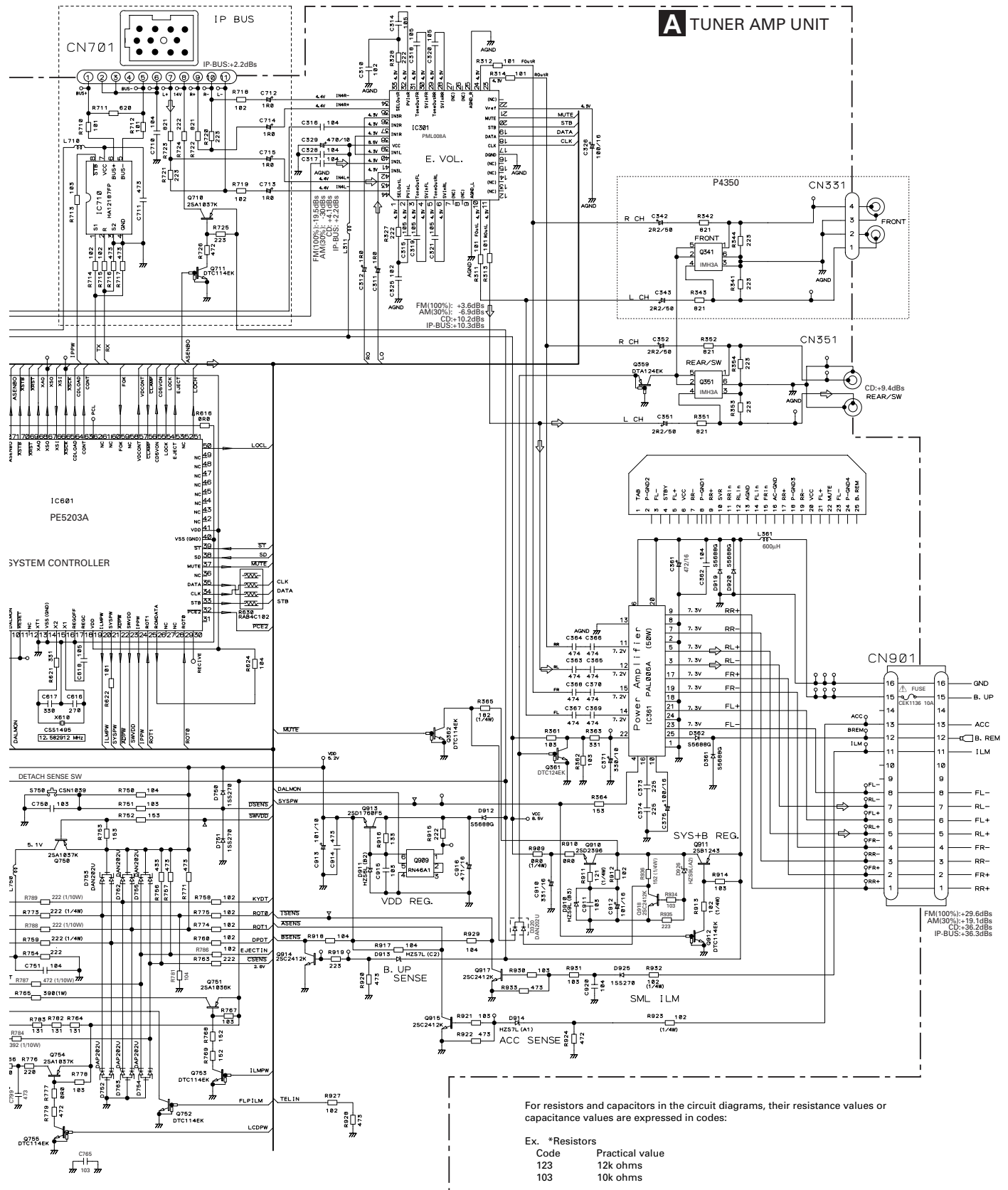
##### D PHOTO UNIT (S8)





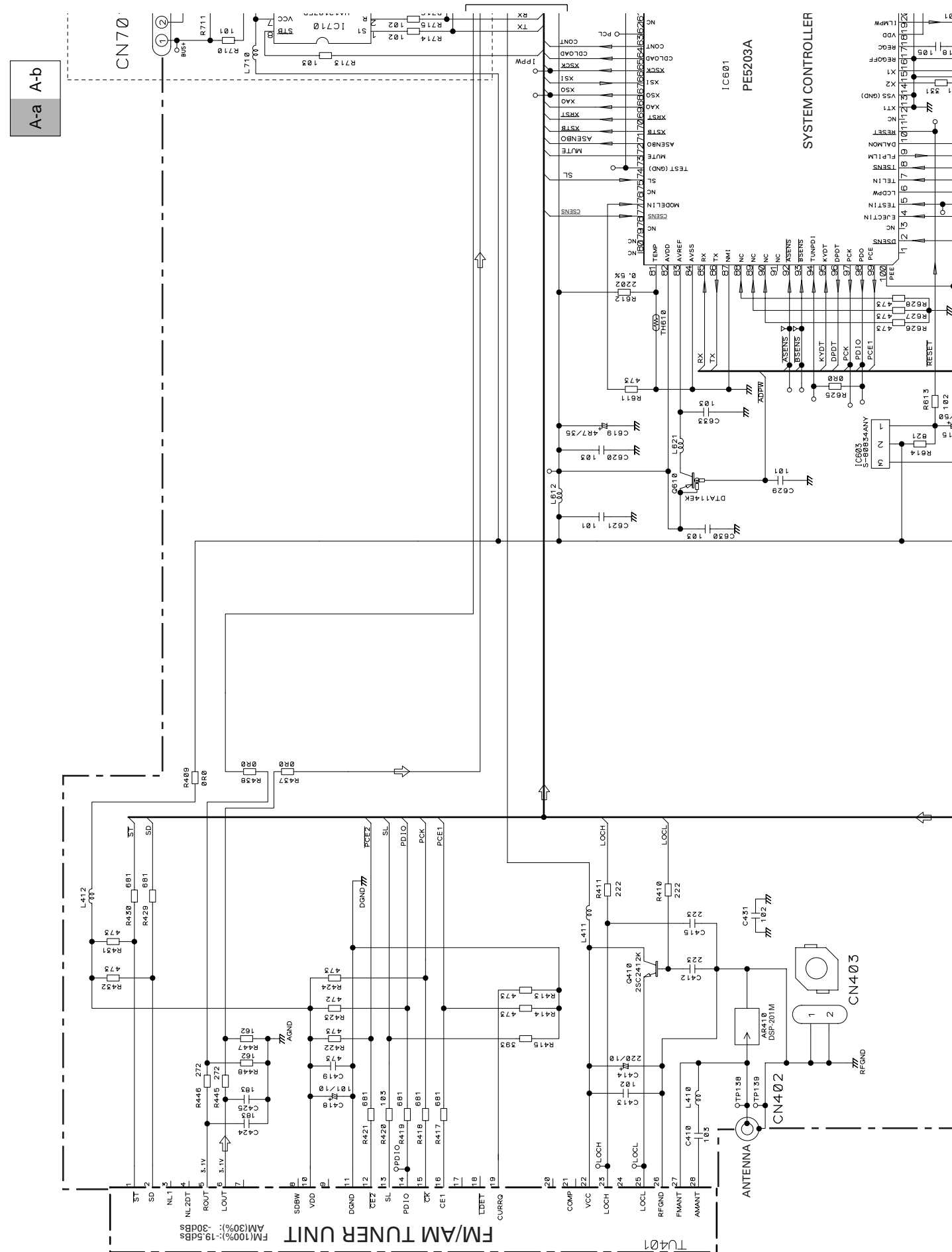


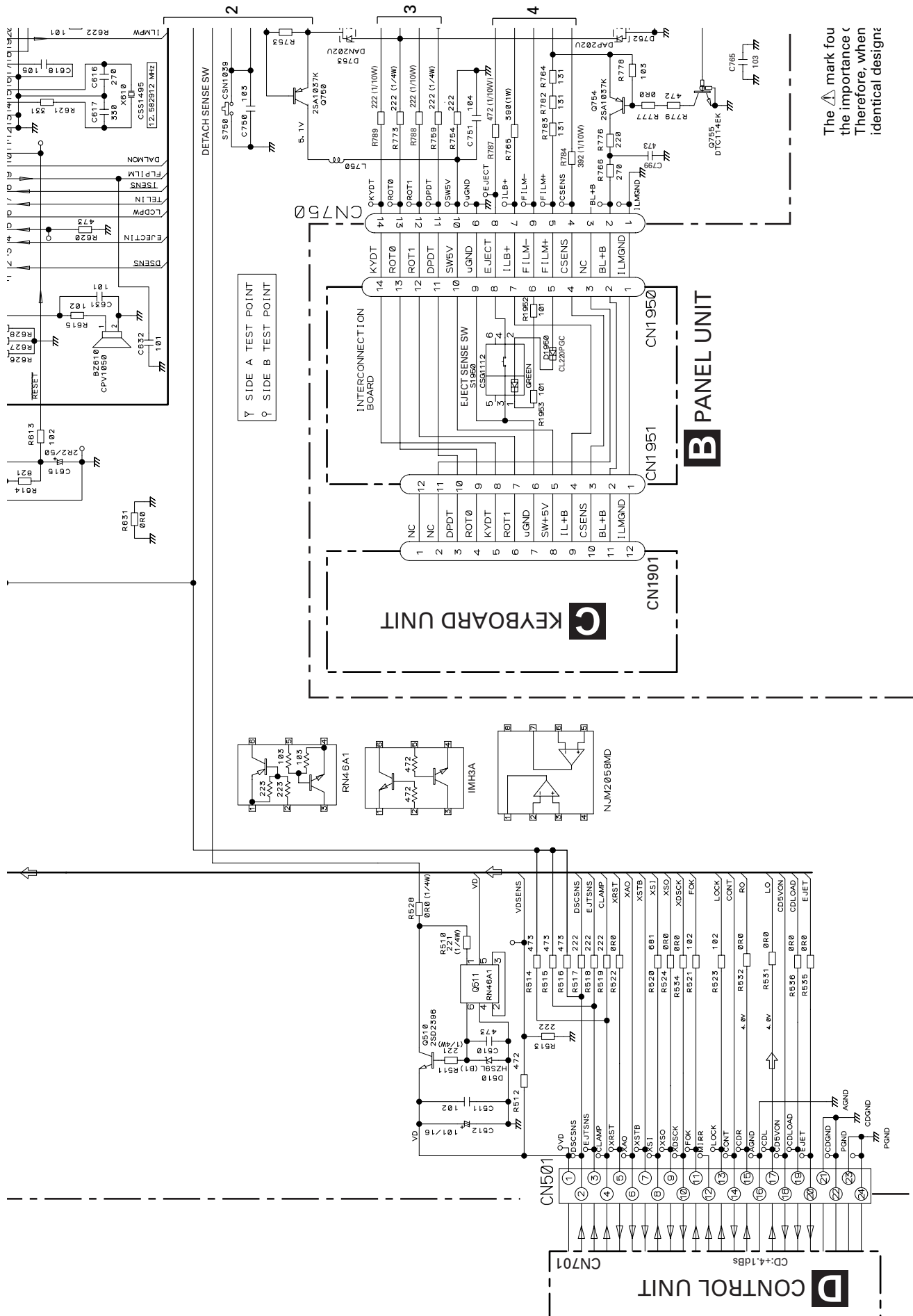
A-b




The  $\Delta$  mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

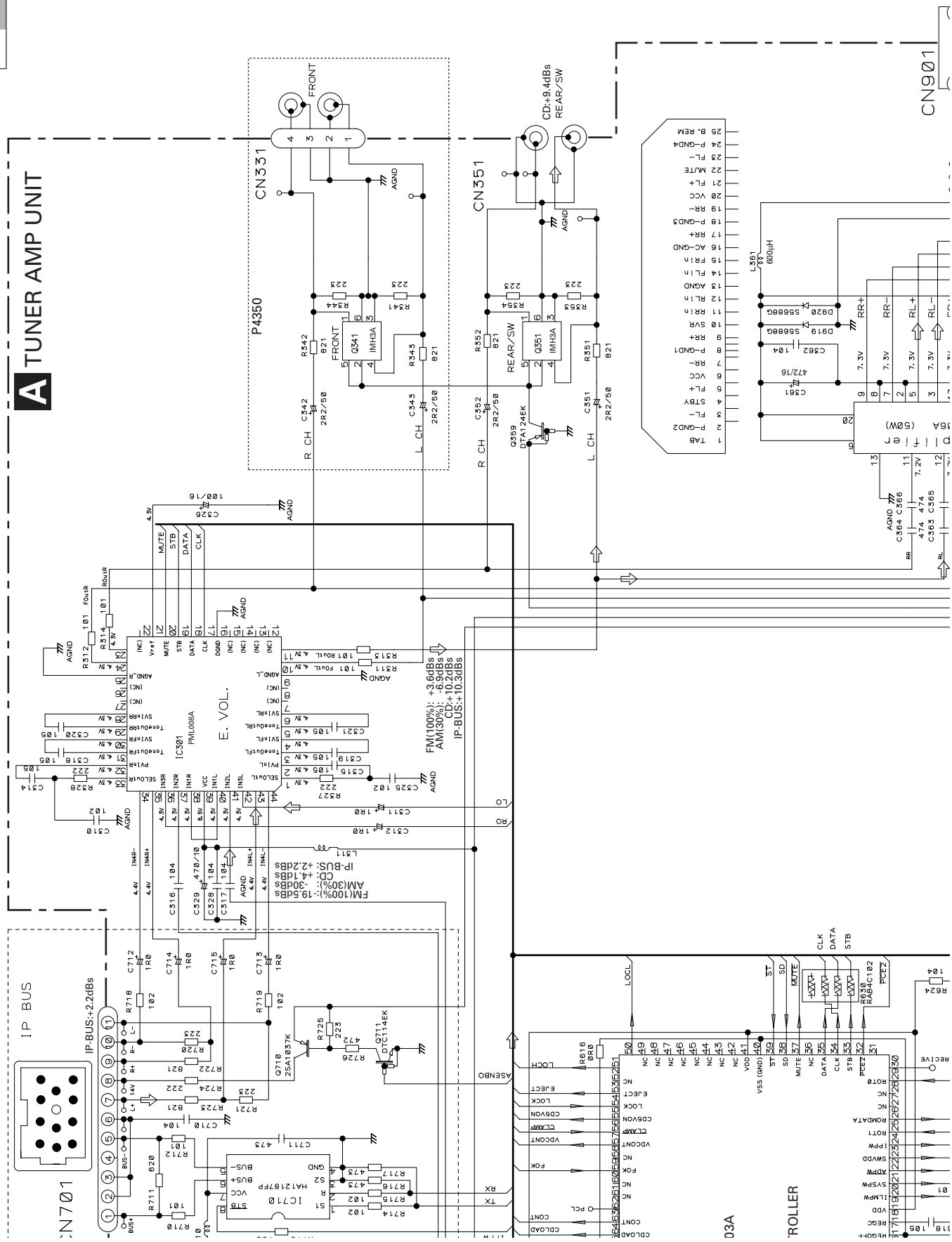
A



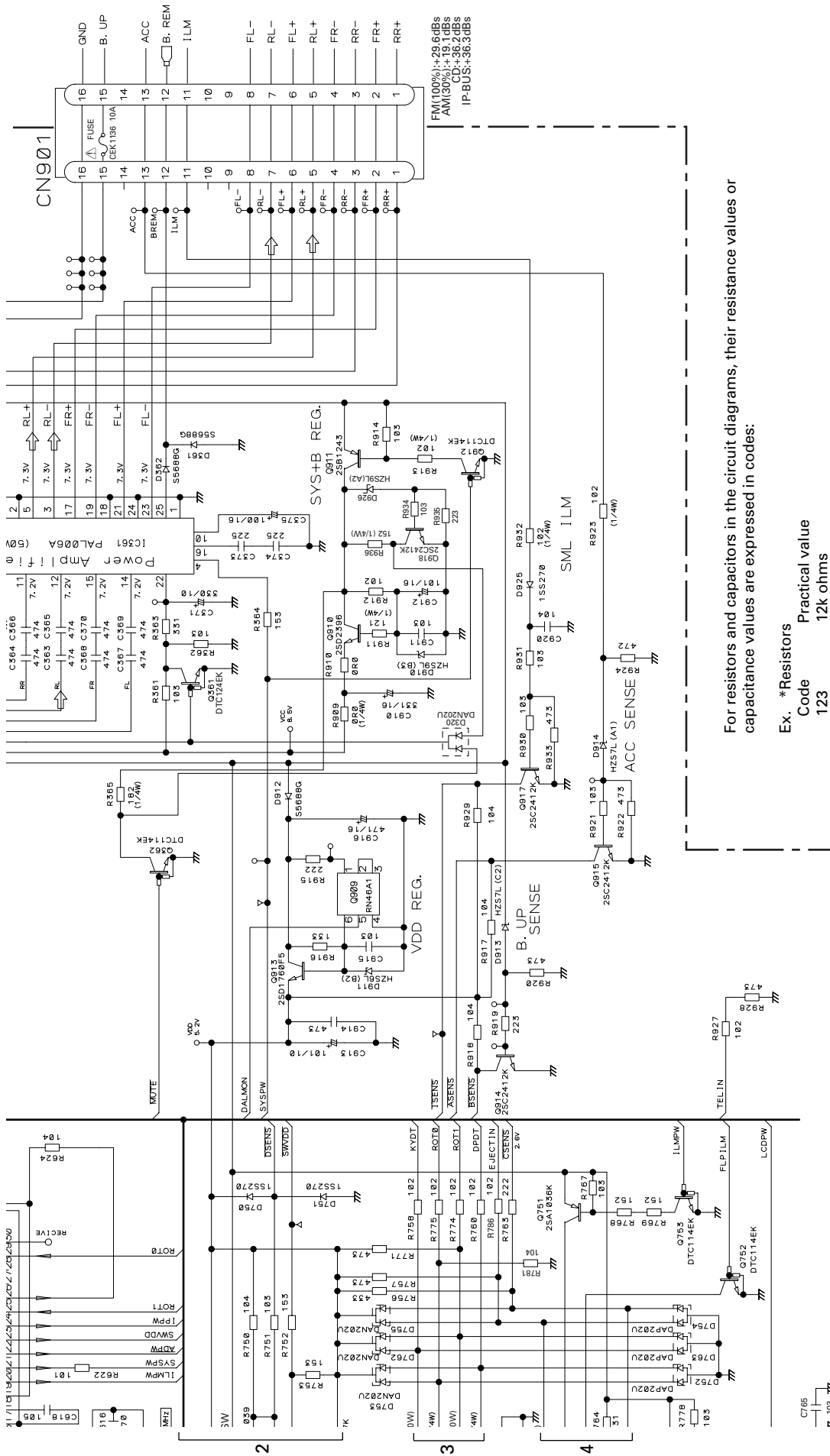


The  mark focuses on the importance of the design. Therefore, when identical designs are used, the mark is not required.

A-a A-b







For resistors and capacitors in the circuit diagrams, their resistance values or capacitance values are expressed in codes:

Ex. \*Resistors

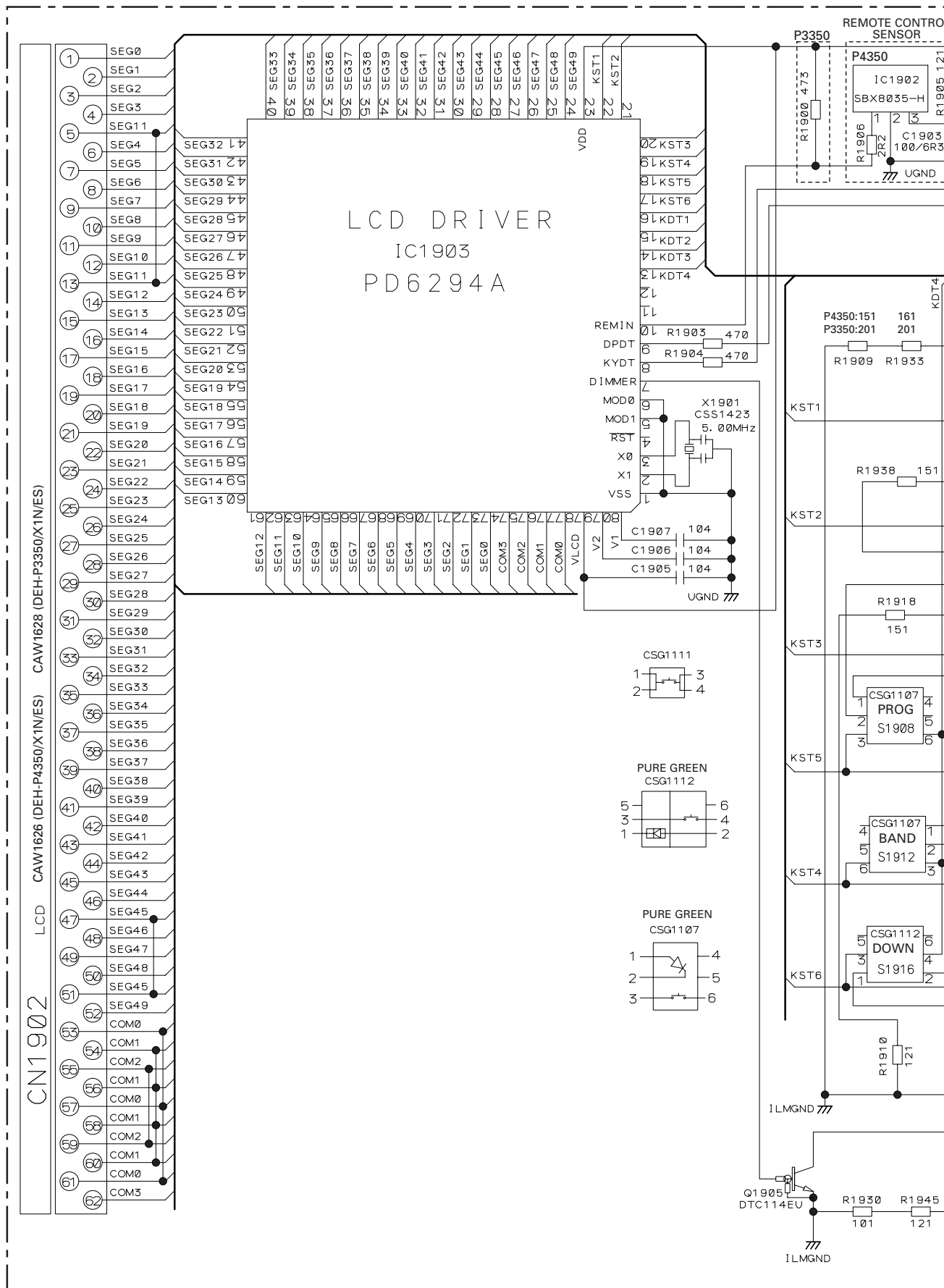
Code	Practical value
123	12k ohms
103	10k ohms

\*Capacitors

Code	Practical value
103	0.01uF
101/10	100uF/10V

mark found on some component parts indicates importance of the safety factor of the part. e, when replacing, be sure to use parts of designation.

### 3.3 KEYBOARD UNIT(DEH-P4350/X1N/ES, DEH-P3350/X1N/ES)

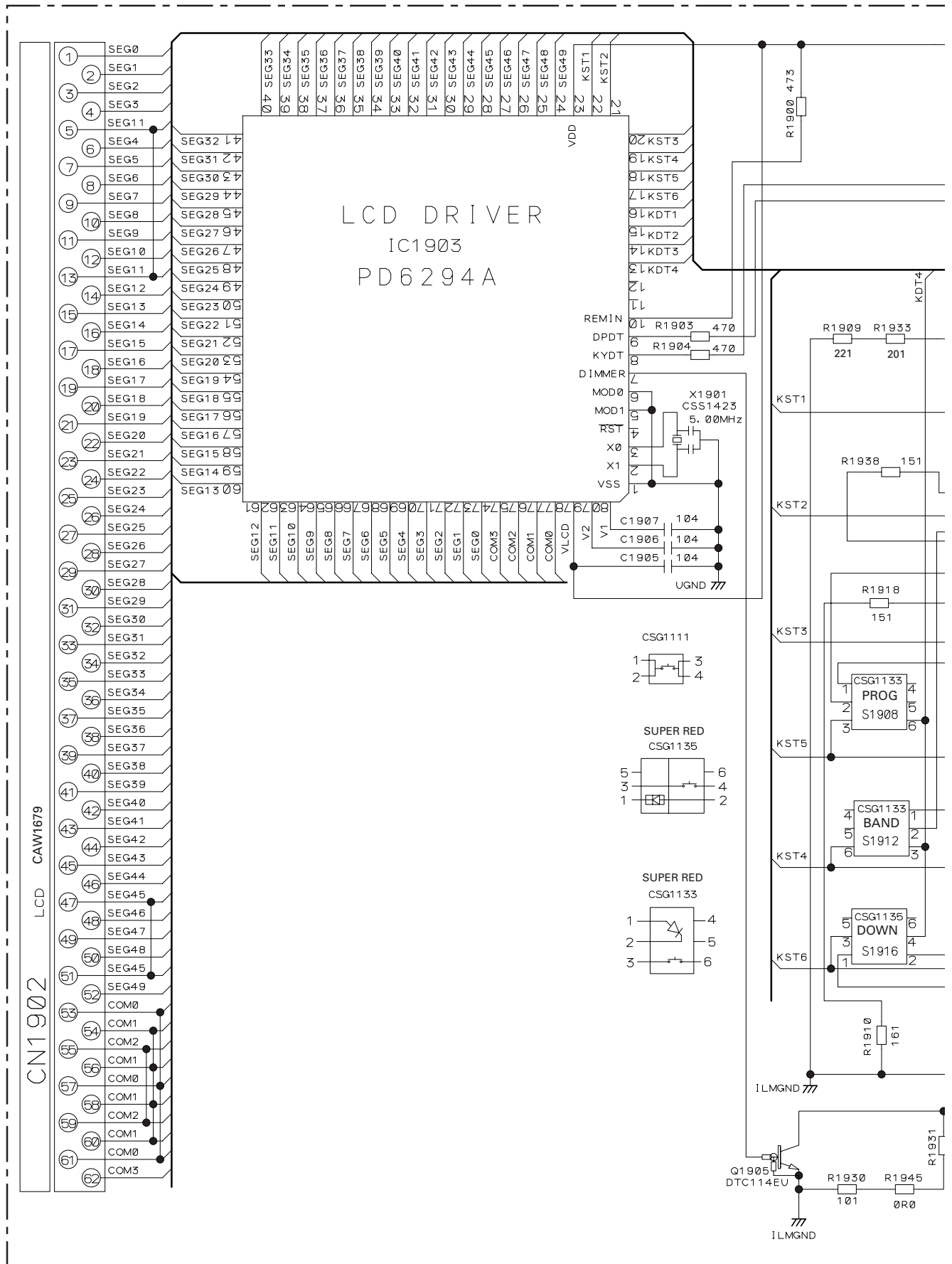




C

D

3.4 KEYBOARD UNIT(DEH-P3350B/X1N/ES)





# 3.5 CD MECHANISM MODULE

**D** CONTROL UNIT

PICKUP UNIT  
(SERVICE)(P8)

CN101

5VA

5V

5V

5V

5V

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**E** PHOTO UNIT(S8)

CN802

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CN803

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CN805

CN806

CN807

CN808

CN809

CN810

CN811

CN812

CN813

CN814

CN815

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CN1038

CN1039

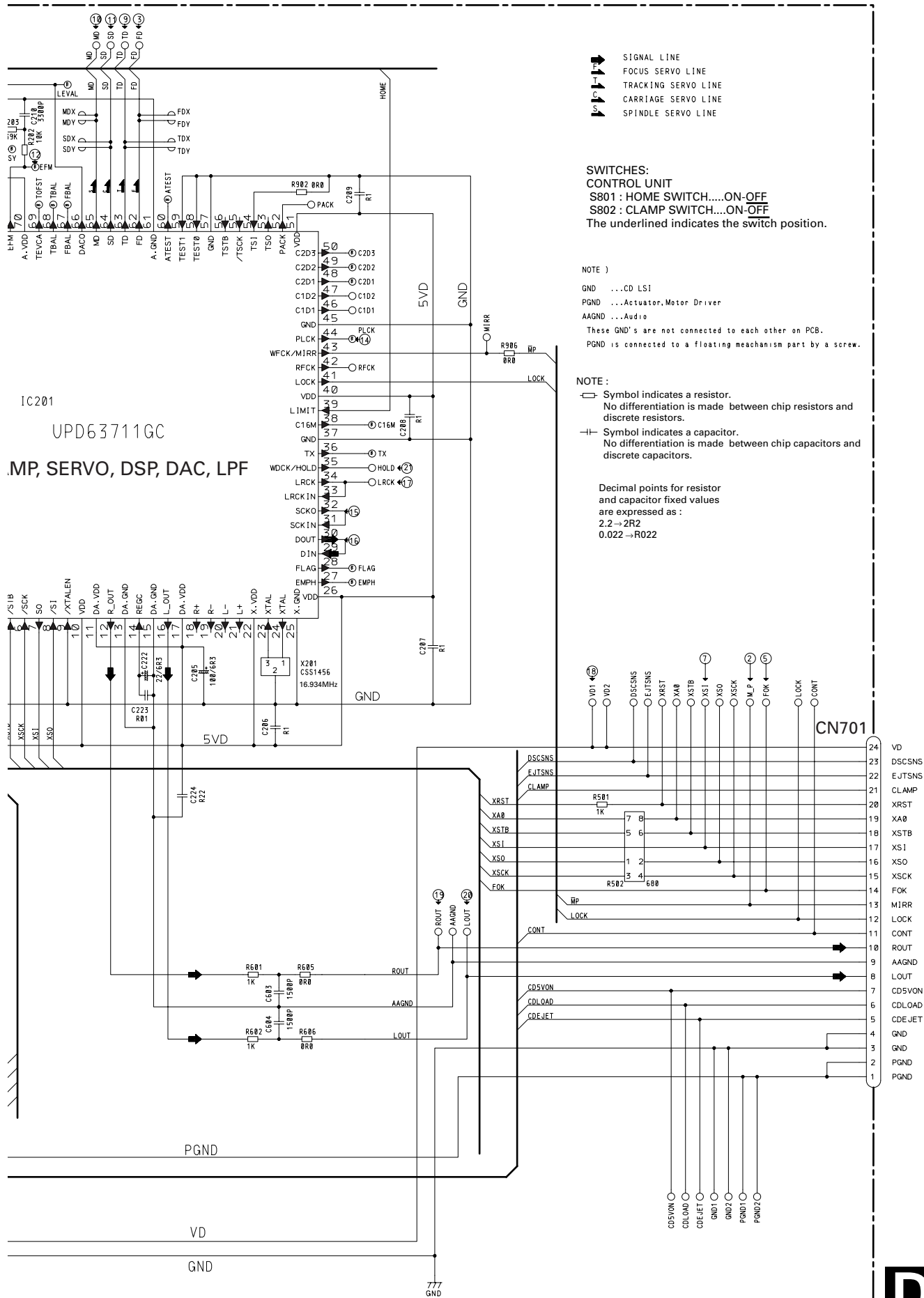
CN1040

CN1041

CN1042

CN1043

CN1044



A

B

C

D

A CN501

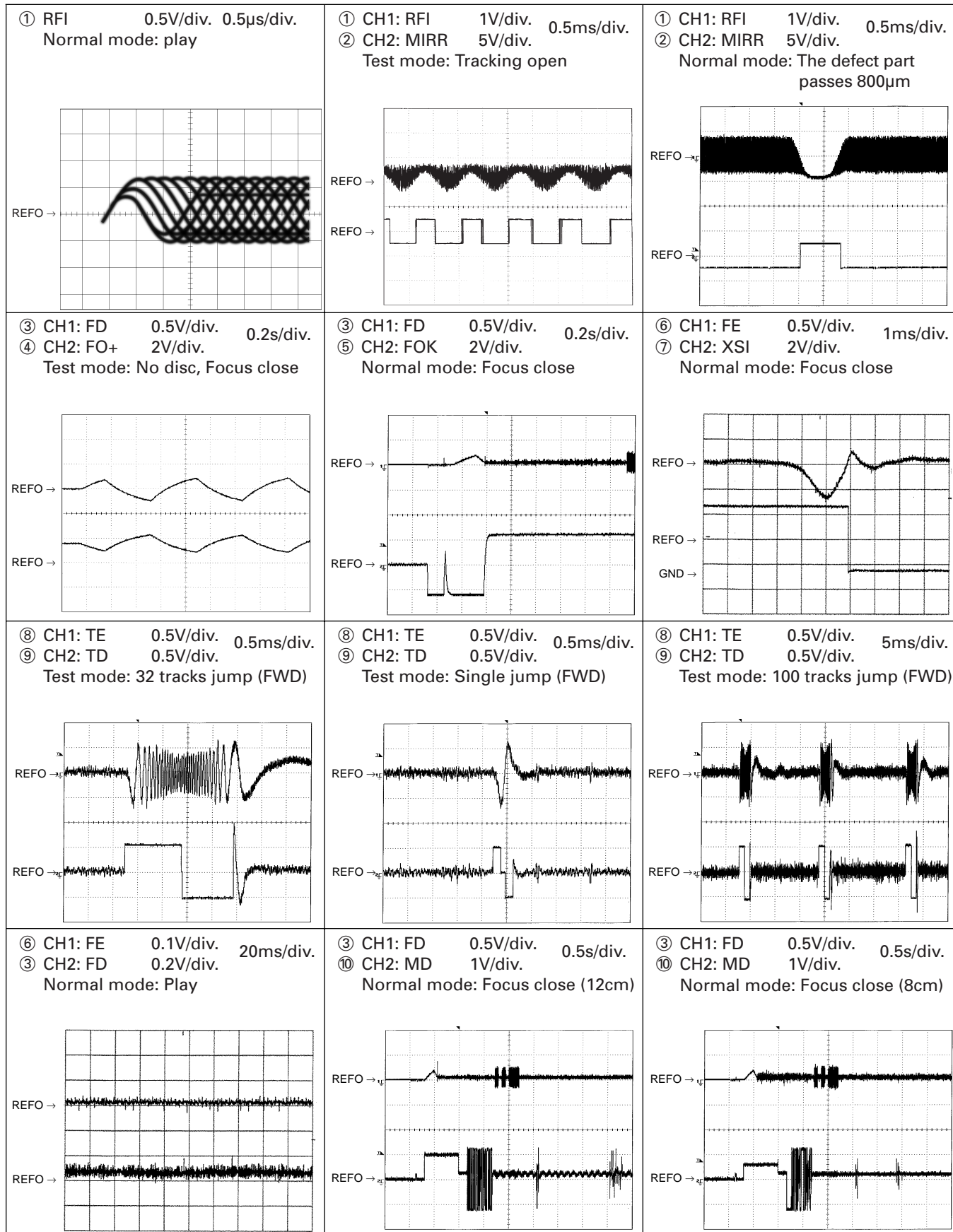
D

Note:1. The encircled numbers denote measuring pointes in the circuit diagram.

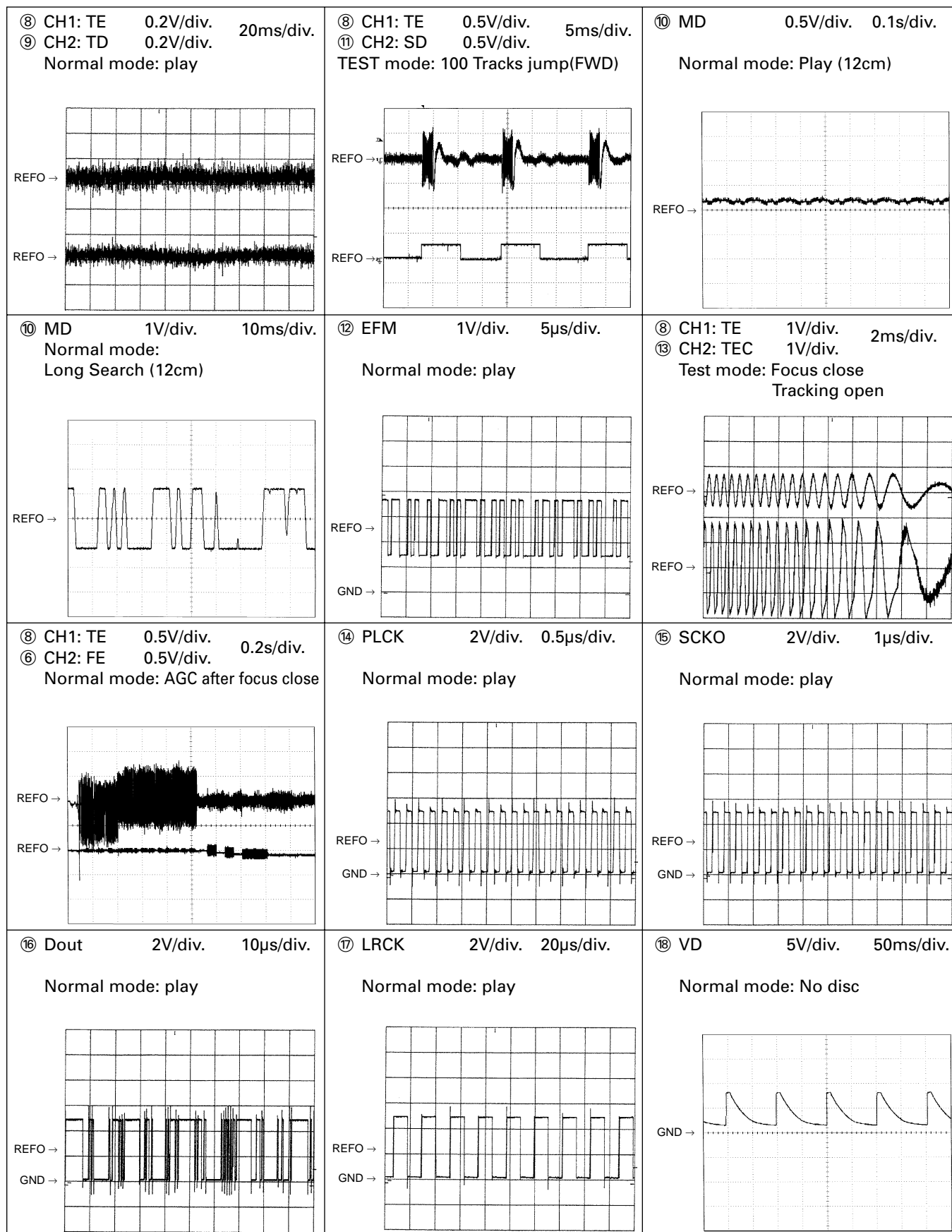
2. Reference voltage

REFO:2.5V

## ● Waveforms







<div><div><div>⑮ CH1: R OUT 1V/div. 0.2ms/div.</div><div>⑳ CH2: L OUT 1V/div. 0.2ms/div.</div><div>Normal mode: Play (1kHz 0dB)</div></div><div></div></div>	<div><div><div>⑥ CH1: FE 0.2V/div. 1ms/div.</div><div>③ CH2: FD 0.5V/div. 1ms/div.</div><div>Normal mode: During AGC</div></div><div></div></div>	<div><div><div>⑧ CH1: TE 0.2V/div. 1ms/div.</div><div>⑨ CH2: TD 0.5V/div. 1ms/div.</div><div>Normal mode: During AGC</div></div><div></div></div>
<div><div><div>① CH1: RFI 1V/div. 0.5ms/div.</div><div>② CH2: HOLD 5V/div. 0.5ms/div.</div><div>Normal mode: The defect part passes 800μm(B.D)</div></div><div></div></div>	<div><div><div>③ CH1: FD 0.5V/div. 0.5ms/div.</div><div>② CH2: HOLD 5V/div. 0.5ms/div.</div><div>Normal mode: The defect part passes 800μm(B.D)</div></div><div></div></div>	<div><div><div>⑨ CH1: TD 0.1V/div. 0.5ms/div.</div><div>② CH2: HOLD 5V/div. 0.5ms/div.</div><div>Normal mode: The defect part passes 800μm(B.D)</div></div><div></div></div>

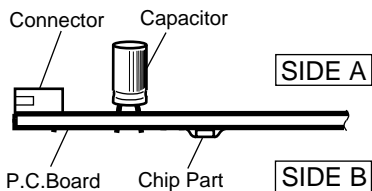


# 4. PCB CONNECTION DIAGRAM

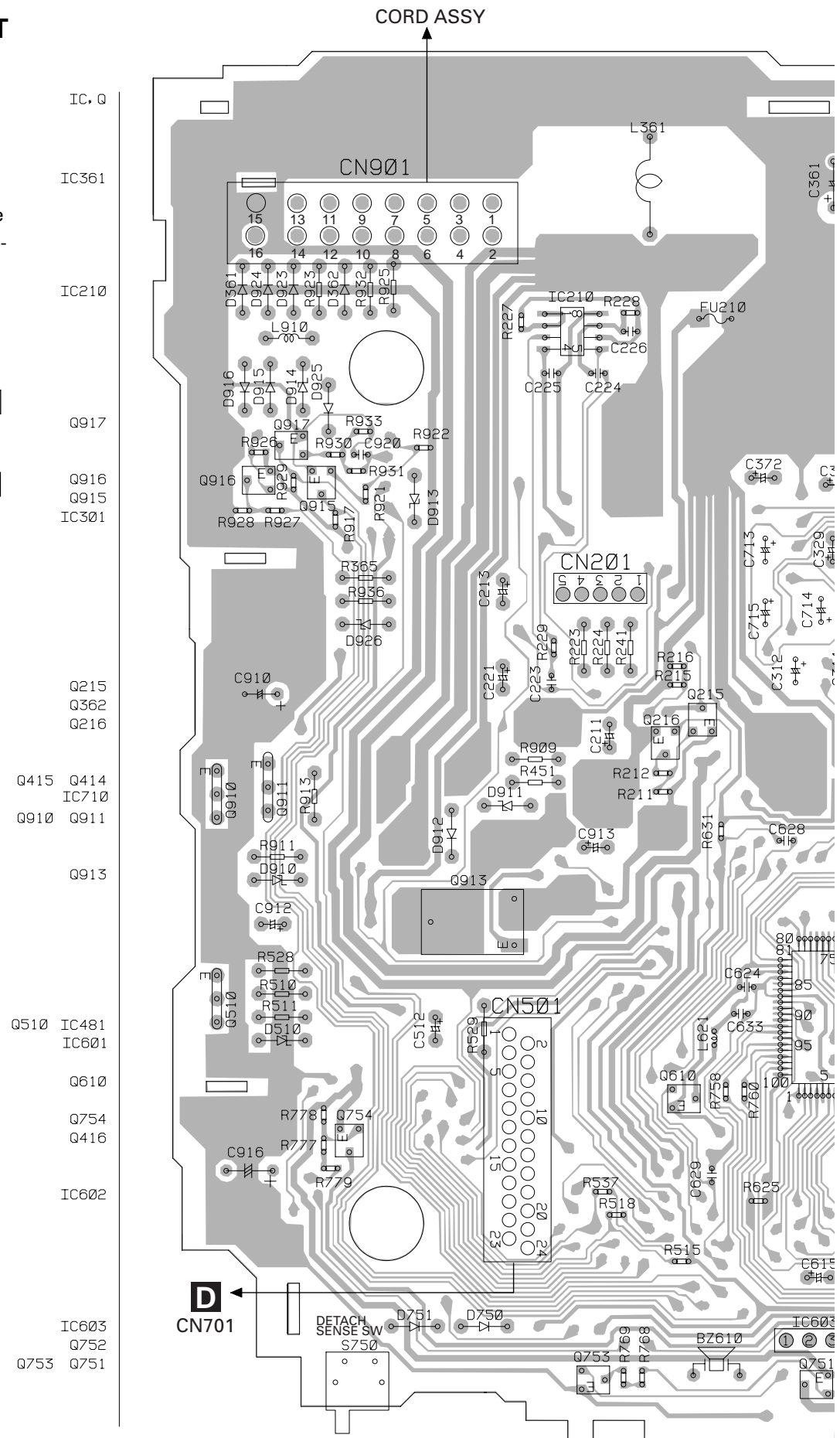
## 4.1 TUNER AMP UNIT

### NOTE FOR PCB DIAGRAMS

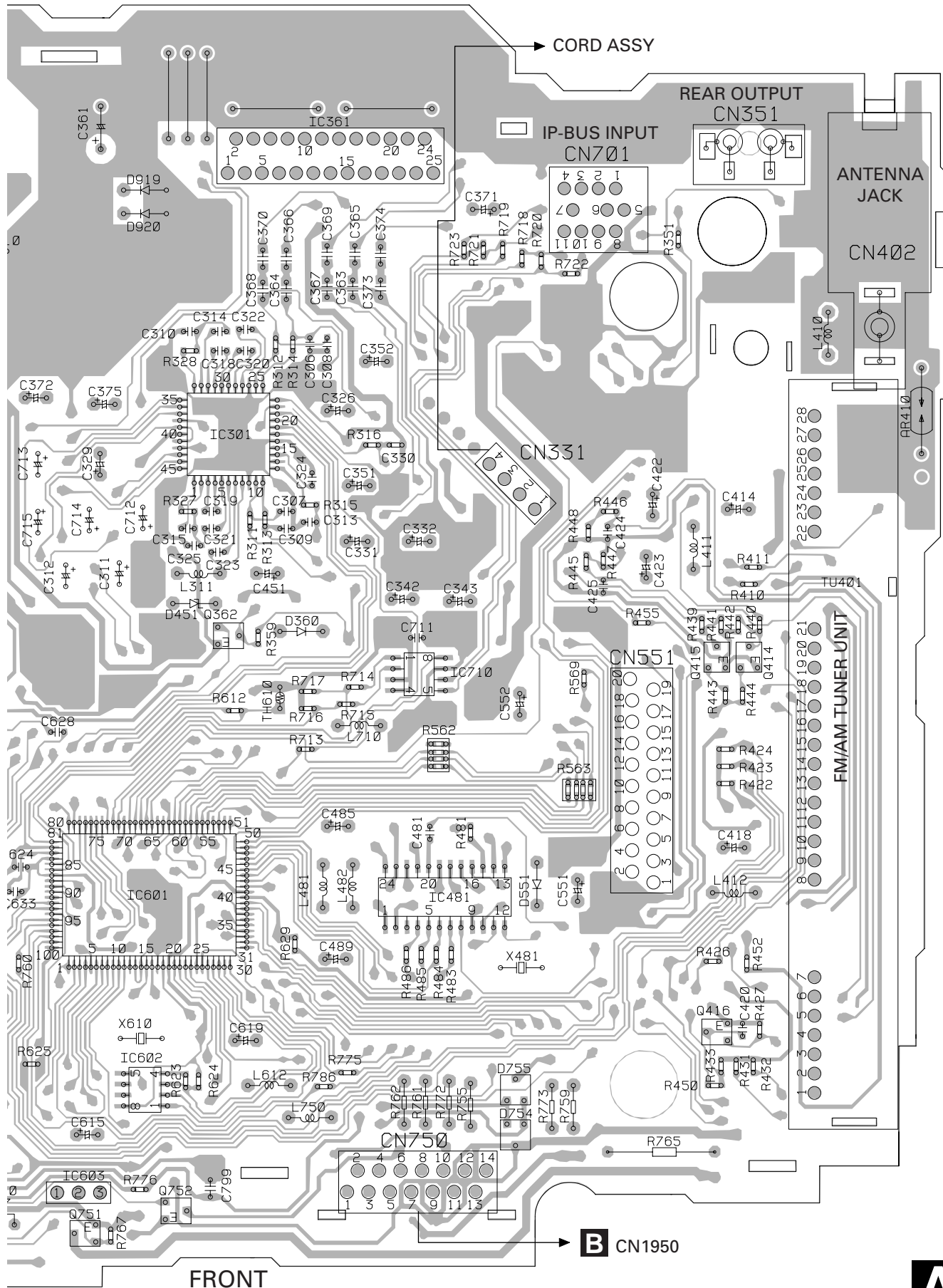
1. The parts mounted on this PCB include all necessary parts for several destination.  
For further information for respective destinations, be sure to check with the schematic diagram.
2. Viewpoint of PCB diagrams



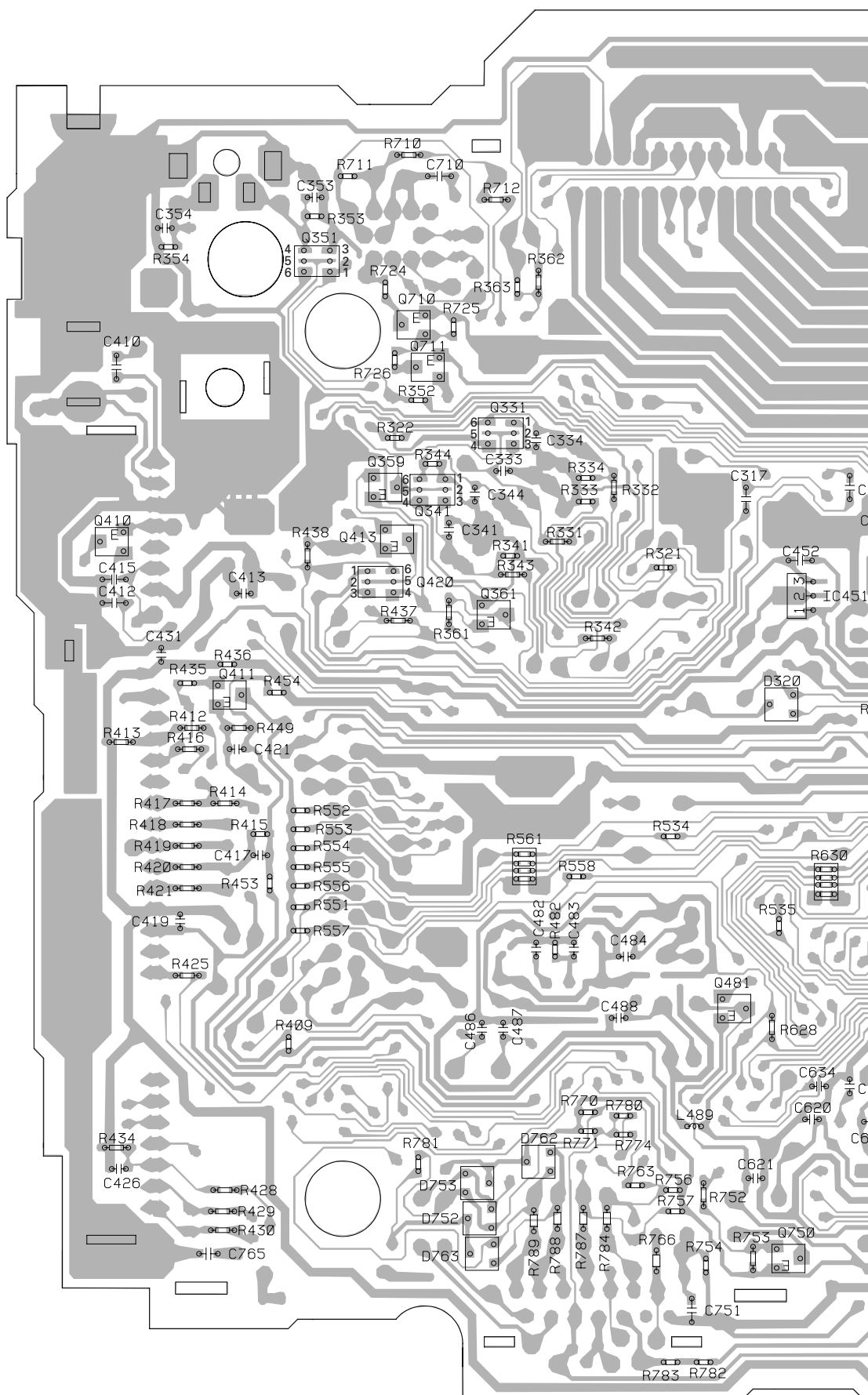
### A TUNER AMP UNIT



SIDE A



A



4



4.2 PANEL UNIT

A

SIDE A

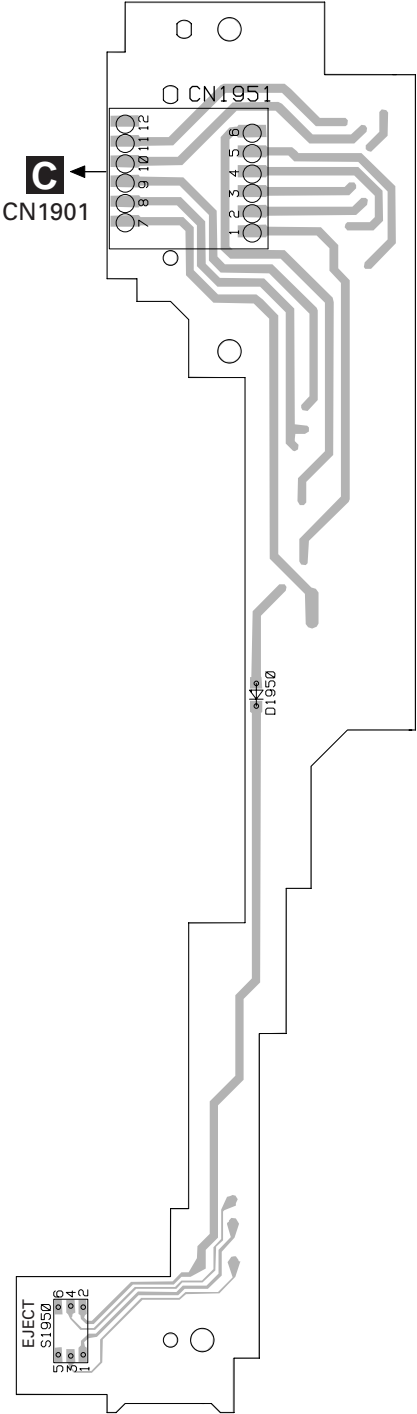
SIDE B

B

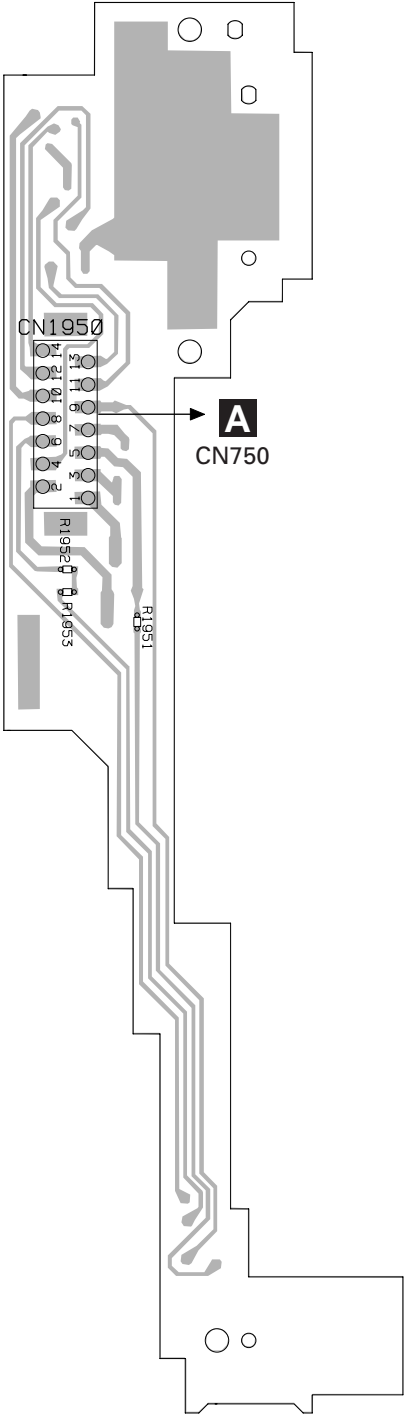
C

D

PANEL UNIT

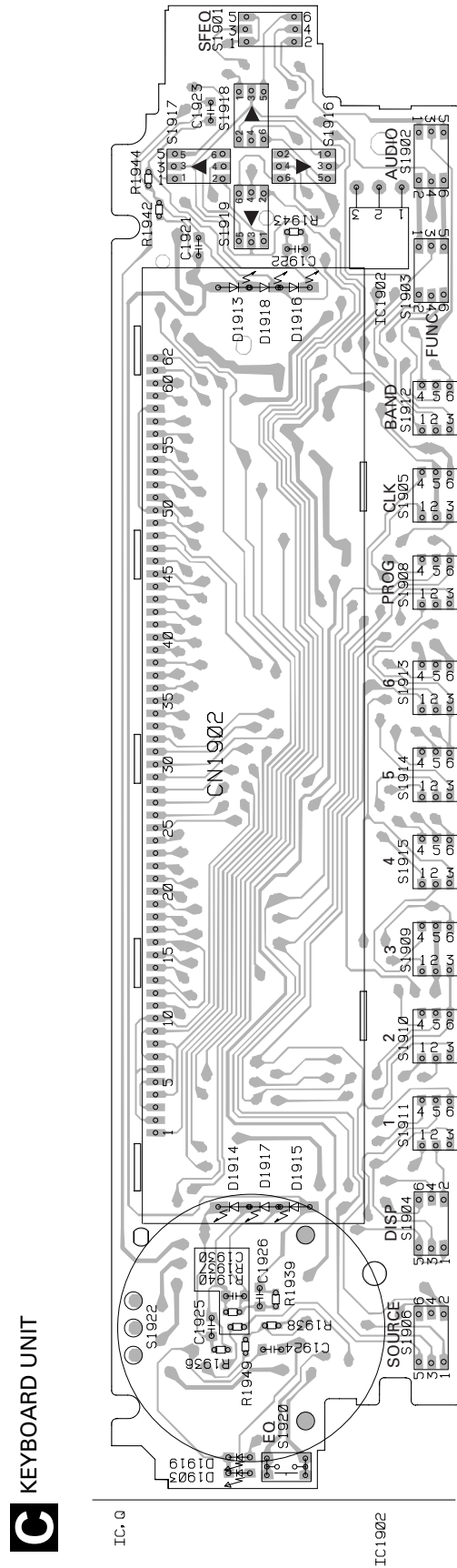


PANEL UNIT

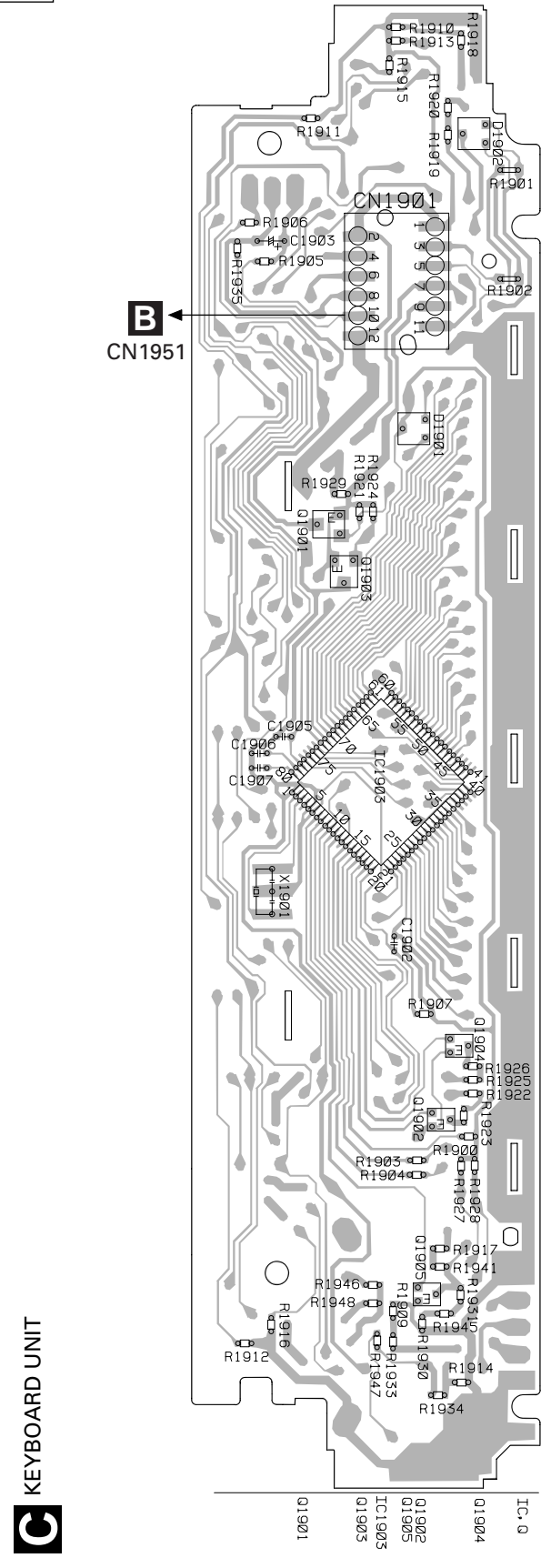




### 4.3 KEYBOARD UNIT



**SIDE A**



## SIDE B

A

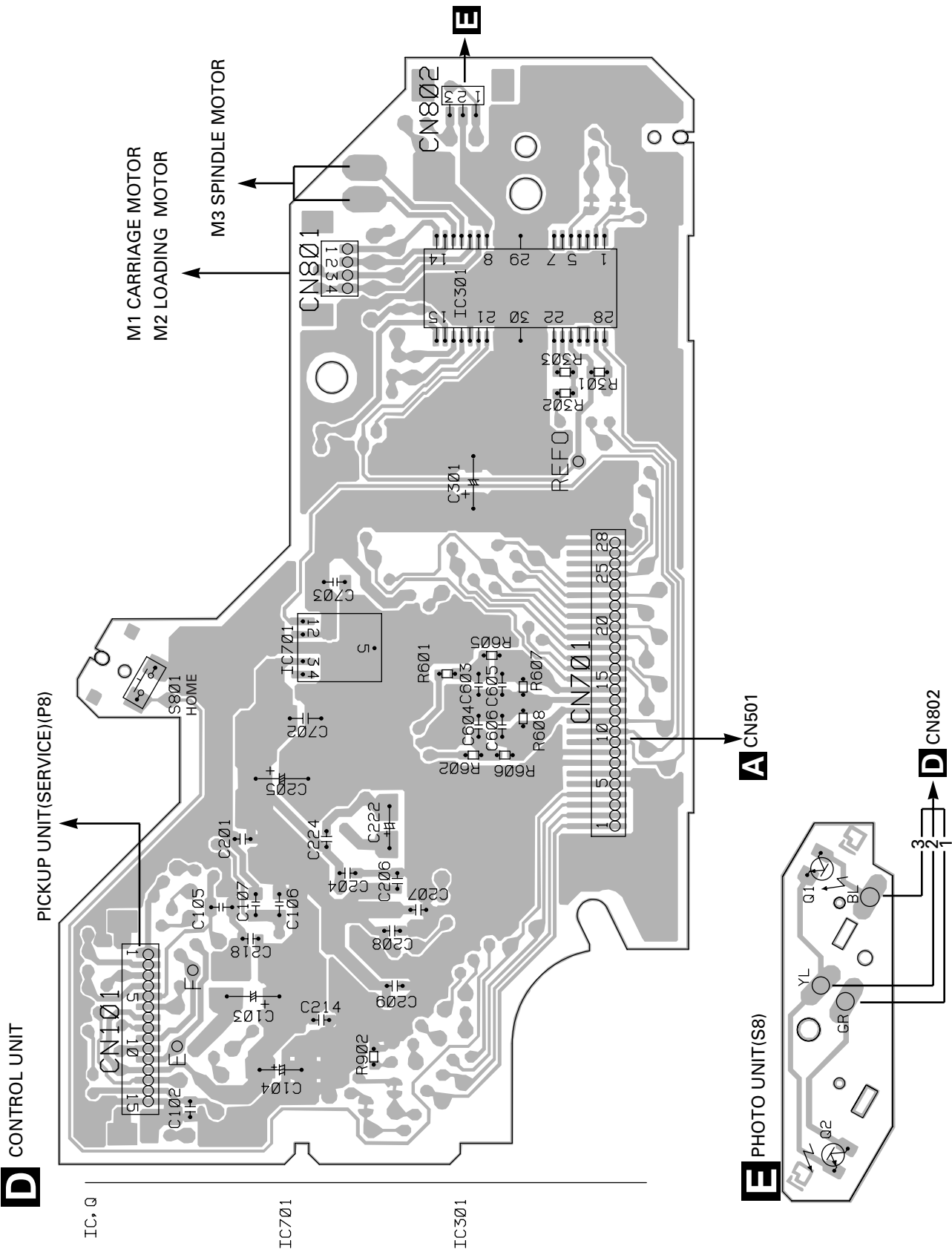
B

C

D

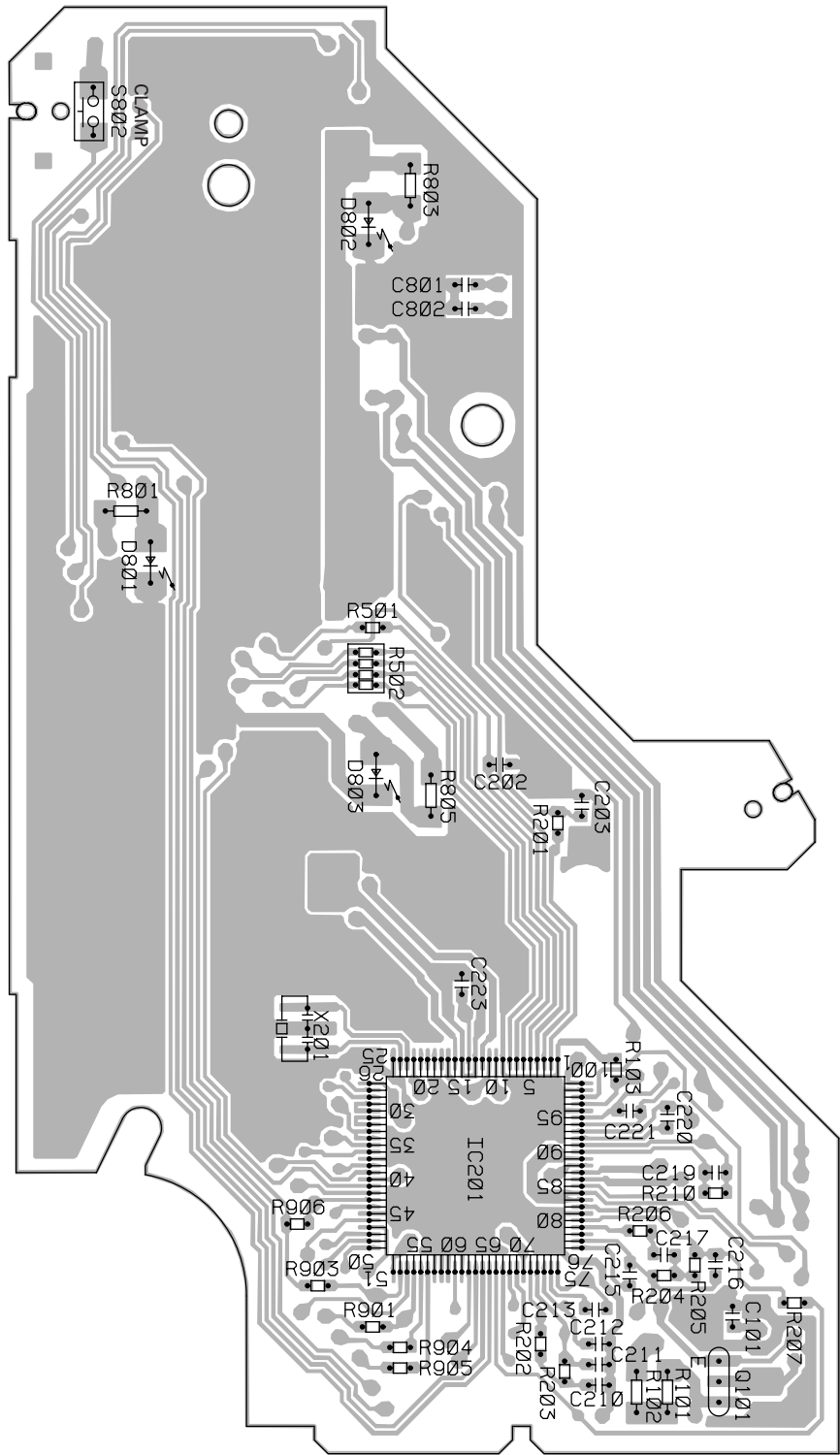
4.4 CD MECHANISM MODULE

SIDE A



SIDE B

**D** CONTROL UNIT



## 5. ELECTRICAL PARTS LIST

### NOTES:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/○S○○○○J,RS1/○○S○○○○J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....



====Circuit Symbol and No.====Part Name	Part No.	====Circuit Symbol and No.====Part Name	Part No.
<b>A</b> Unit Number : CWM7376(DEH-P4350/X1N/ES)		D 912 Diode	S5688G
Unit Number : CWM7676(DEH-P3350B/X1N/ES)		D 913 Diode	HZS7L(C2)
Unit Number : CWM7383(DEH-P3350/X1N/ES)		D 914 Diode	HZS7L(A1)
Unit Name : Tuner Amp Unit		D 919 Diode	S5688G
		D 920 Diode	S5688G
<b>MISCELLANEOUS</b>		D 925 Diode	1SS270
IC 301 IC	PML008A	D 926 Diode	HZS9L(A2)
IC 361 IC	PAL006A	L 311 Ferri-Inductor	LAU4R7K
IC 601 IC	PE5203A	L 361 Choke Coil 600μH	CTH1221
IC 603 IC	S-80834ANY	L 410 Ferri-Inductor	LAU4R7K
IC 710 IC	HA12187FP	L 411 Ferri-Inductor	LAU2R2K
Q 341 Transistor(DEH-P4350/X1N/ES)	IMH3A	L 412 Ferri-Inductor	LAU2R2K
Q 351 Transistor	IMH3A	L 612 Inductor	LAU100K
Q 359 Transistor	DTA124EK	L 621 Inductor	CTF1346
Q 361 Transistor	DTC124EK	L 710 Ferri-Inductor	LAU2R2K
Q 362 Transistor	DTC114EK	L 750 Ferri-Inductor	LAU2R2K
Q 410 Transistor	2SC2412K	TH 610 Thermistor	CCX1037
Q 510 Transistor	2SD2396	X 610 Radiator 12.5829MHz	CSS1495
Q 511 Transistor	RN46A1	S 750 Switch(DETACH SENSE)	CSN1039
Q 610 Transistor	DTA114EK	BZ 610 Buzzer	CPV1050
Q 710 Transistor	2SA1037K	AR 410 Arrester	DSP-201M
Q 711 Transistor	DTC114EK	FM/AM Tuner Unit	CWE1563
Q 750 Transistor	2SA1037K		
Q 751 Transistor	2SA1036K	<b>RESISTORS</b>	
Q 752 Transistor	DTC114EK	R 311	RS1/16S101J
Q 753 Transistor	DTC114EK	R 312	RS1/16S101J
Q 754 Transistor	2SA1037K	R 313	RS1/16S101J
Q 755 Transistor	DTC114EK	R 314	RS1/16S101J
Q 909 Transistor	RN46A1	R 327	RS1/16S222J
Q 910 Transistor	2SD2396	R 328	RS1/16S222J
Q 911 Transistor	2SB1243	R 341 (DEH-P4350/X1N/ES)	RS1/16S223J
Q 912 Transistor	DTC114EK	R 342 (DEH-P4350/X1N/ES)	RS1/16S821J
Q 913 Transistor	2SD1760F5	R 343 (DEH-P4350/X1N/ES)	RS1/16S821J
Q 914 Transistor	2SC2412K	R 344 (DEH-P4350/X1N/ES)	RS1/16S223J
Q 915 Transistor	2SC2412K	R 351	RS1/16S821J
Q 917 Transistor	2SC2412K	R 352	RS1/16S821J
Q 918 Transistor	2SC2412K	R 353	RS1/16S223J
D 320 Diode	DAN202U	R 354	RS1/16S223J
D 361 Diode	S5688G	R 361	RS1/16S103J
D 362 Diode	S5688G	R 362	RS1/16S103J
D 510 Diode	HZS9L(B1)	R 363	RS1/16S331J
D 750 Diode	1SS270	R 364	RS1/16S153J
D 751 Diode	1SS270	R 365	RD1/4PU182J
D 752 Diode	DAP202U	R 409	RS1/16S0R0J
D 753 Diode	DAN202U	R 410	RS1/16S222J
D 754 Diode	DAP202U	R 411	RS1/16S222J
D 755 Diode	DAN202U	R 413	RS1/16S473J
D 762 Diode	DAN202U	R 414	RS1/16S473J
D 763 Diode	DAP202U	R 415	RS1/16S393J
D 910 Diode	HZS9L(B3)	R 417	RS1/16S681J
D 911 Diode	HZS6L(B2)	R 418	RS1/16S681J
		R 419	RS1/16S681J
		R 420	RS1/16S103J
		R 421	RS1/16S681J

====Circuit Symbol and No.==Part Name	Part No.	====Circuit Symbol and No.==Part Name	Part No.
R 422	RS1/16S473J	R 752	RS1/16S153J
R 423	RS1/16S472J	R 753	RS1/16S153J
R 424	RS1/16S473J	R 754	RS1/16S222J
R 429	RS1/16S681J	R 756	RS1/16S433J
R 430	RS1/16S681J	R 757	RS1/16S473J
R 431	RS1/16S473J	R 758	RS1/16S102J
R 432	RS1/16S473J	R 759	RD1/4PU222J
R 437	RS1/16S0R0J	R 760	RS1/16S102J
R 438	RS1/16S0R0J	R 763	RS1/16S222J
R 445	RS1/16S272J	R 764	RS1/16S131J
R 446	RS1/16S272J	R 765	RS1PMF390J
R 447	RS1/16S162J	R 766	RS1/10S270J
R 448	RS1/16S162J	R 767	RS1/16S103J
R 454	RS1/16S0R0J	R 768	RS1/16S152J
R 510	RD1/4PU221J	R 769	RS1/16S152J
R 511	RD1/4PU221J	R 771	RS1/16S473J
R 512	RS1/16S472J	R 773	RD1/4PU222J
R 513	RS1/16S222J	R 774	RS1/16S102J
R 514	RS1/16S473J	R 775	RS1/16S102J
R 515	RS1/16S473J	R 776	RS1/16S220J
R 516	RS1/16S473J	R 777	RS1/16S0R0J
R 517	RS1/16S222J	R 778	RS1/16S103J
R 518	RS1/16S222J	R 779	RS1/16S472J
R 519	RS1/16S222J	R 781	RS1/16S104J
R 520	RS1/16S681J	R 782	RS1/16S131J
R 521	RS1/16S102J	R 783	RS1/16S131J
R 522	RS1/16S0R0J	R 784	RS1/10S392J
R 523	RS1/16S102J	R 786	RS1/16S102J
R 524	RS1/16S0R0J	R 787	RS1/10S472J
R 528	RD1/4PU0R0J	R 788	RS1/10S222J
R 531	RS1/16S0R0J	R 789	RS1/10S222J
R 532	RS1/16S0R0J	R 909	RD1/4PU0R0J
R 534	RS1/16S0R0J	R 910	RS1/16S0R0J
R 535	RS1/16S0R0J	R 911	RD1/4PU121J
R 536	RS1/16S0R0J	R 912	RS1/16S102J
R 611	RS1/16S473J	R 913	RD1/4PU102J
R 612	RS1/16S2202F	R 914	RS1/16S103J
R 613	RS1/16S102J	R 915	RS1/16S222J
R 614	RS1/16S821J	R 916	RS1/16S133J
R 615	RS1/16S102J	R 917	RS1/16S104J
R 616	RS1/16S0R0J	R 918	RS1/16S104J
R 620	RS1/16S473J	R 919	RS1/16S223J
R 621	RS1/16S331J	R 920	RS1/16S473J
R 622	RS1/16S101J	R 921	RS1/16S103J
R 624	RS1/16S104J	R 922	RS1/16S473J
R 625	RS1/16S0R0J	R 923	RD1/4PU102J
R 626	RS1/16S473J	R 924	RS1/16S472J
R 627	RS1/16S473J	R 927	RS1/16S102J
R 628	RS1/16S473J	R 928	RS1/16S473J
R 630	RAB4C102J	R 929	RS1/16S104J
R 631	RS1/16S0R0J	R 930	RS1/16S103J
R 710	RS1/16S101J	R 931	RS1/16S103J
R 711	RS1/16S620J	R 932	RD1/4PU102J
R 712	RS1/16S101J	R 933	RS1/16S473J
R 713	RS1/16S103J	R 934	RS1/16S103J
R 714	RS1/16S102J	R 935	RS1/16S223J
R 715	RS1/16S102J	R 936	RD1/4PU152J
R 716	RS1/16S473J		
R 717	RS1/16S473J		
R 718	RS1/16S102J		
R 719	RS1/16S102J		
R 720	RS1/16S223J		
R 721	RS1/16S223J		
R 722	RS1/16S821J		
R 723	RS1/16S821J		
R 724	RS1/16S222J		
R 725	RS1/16S223J		
R 726	RS1/16S472J		
R 750	RS1/16S104J		
R 751	RS1/16S103J		

## CAPACITORS

C 310	CKSRYB102K50
C 311	CEJA1R0M50
C 312	CEJA1R0M50
C 314	CKSRYB105K6R3
C 315	CKSRYB105K6R3
C 316	CKSRYB104K16
C 317	CKSRYB104K16
C 318	CKSRYB105K6R3
C 319	CKSRYB105K6R3
C 320	CKSRYB105K6R3

====Circuit Symbol and No.====Part Name	Part No.
C 321	CKSRYP105K6R3
C 325	CKSRYP102K50
C 326	CEJA100M16
C 328	CKSRYP104K16
C 329	CEJA470M10
C 342 (DEH-P4350/X1N/ES)	CEJA2R2M50
C 343 (DEH-P4350/X1N/ES)	CEJA2R2M50
C 351	CEJA2R2M50
C 352	CEJA2R2M50
C 361 4700μF/16V	CCH1367
C 362	CKSQYB104K16
C 363	CKSQYB474K16
C 364	CKSQYB474K16
C 365	CKSQYB474K16
C 366	CKSQYB474K16
C 367	CKSQYB474K16
C 368	CKSQYB474K16
C 369	CKSQYB474K16
C 370	CKSQYB474K16
C 371	CEJA330M10
C 373	CKSQYB225K10
C 374	CKSQYB225K10
C 375	CEJA100M16
C 410	CKSQYB103K50
C 412	CKSRYP223K25
C 413	CKSRYP102K50
C 414	CEJA220M10
C 415	CKSRYP223K25
C 418	CEAL101M10
C 419	CKSRYP473K16
C 424	CKSRYP183K25
C 425	CKSRYP183K25
C 431	CKSRYP102K50
C 510	CKSRYP473K16
C 511	CKSRYP102K50
C 512	CEJA101M16
C 615	CEAL2R2M50
C 616	CCSRCH270J50
C 617	CCSRCH330J50
C 618	CKSRYP105K6R3
C 619	CEAL4R7M35
C 620	CKSRYP103K50
C 621	CCSRCH101J50
C 624	CKSRYP223K25
C 629	CCSRCH101J50
C 630	CKSRYP103K50
C 631	CCSRCH101J50
C 632	CCSRCH101J50
C 633	CKSRYP103K50
C 634	CKSRYP472K50
C 710	CKSRYP104K16
C 711	CKSRYP473K16
C 712	CEJA1R0M50
C 713	CEJA1R0M50
C 714	CEJA1R0M50
C 715	CEJA1R0M50
C 750	CKSRYP103K25
C 751	CKSQYB104K16
C 765	CKSQYB103K50
C 799	CKSQYB473K50
C 910 330μF/16V	CCH1326
C 911	CKSRYP103K25
C 912	CEJA101M16
C 913	CEJA101M10
C 914	CKSRYP473K16
C 915	CKSRYP103K25
C 916 470μF/16V	CCH1331
C 920	CKSRYP104K16

====Circuit Symbol and No.====Part Name	Part No.
 Unit Number : CWM7398(DEH-P4350/X1N/ES)	
 Unit Number : CWM7405(DEH-P3350/X1N/ES)	
Unit Name : Keyboard Unit	

## MISCELLANEOUS

IC 1902	IC(DEH-P4350/X1N/ES)	SBX8035-H
IC 1903	IC	PD6294A
Q 1905	Transistor	DTC114EU
D 1901	Chip Diode	MA151WK
D 1902	Chip Diode	MA151WA
D 1903	LED(DEH-P4350/X1N/ES)	CL170UBX
	LED(DEH-P3350/X1N/ES)	CL170PGCD
D 1917	LED	NSSW440-9159
D 1918	LED	NSSW440-9159
X 1901	Radiator 5.00MHz	CSS1423
S 1901	Push Switch	CSG1112
S 1902	Push Switch	CSG1112
S 1903	Push Switch	CSG1112
S 1904	Push Switch	CSG1112
S 1905	Switch	CSG1107
S 1906	Push Switch	CSG1112
S 1908	Switch	CSG1107
S 1909	Switch	CSG1107
S 1910	Switch	CSG1107
S 1911	Switch	CSG1107
S 1912	Switch	CSG1107
S 1913	Switch	CSG1107
S 1914	Switch	CSG1107
S 1915	Switch	CSG1107
S 1916	Push Switch	CSG1112
S 1917	Push Switch	CSG1112
S 1918	Push Switch	CSG1112
S 1919	Push Switch	CSG1112
S 1920	Push Switch	CSG1111
S 1922	Switch	CSD1061
	LCD(DEH-P4350/X1N/ES)	CAW1626
	LCD(DEH-P3350/X1N/ES)	CAW1628

## RESISTORS

R 1900	(DEH-P3350/X1N/ES)	RS1/16S473J
R 1901		RS1/10S222J
R 1902		RS1/10S222J
R 1903		RS1/16S470J
R 1904		RS1/16S470J
R 1905	(DEH-P4350/X1N/ES)	RS1/16S121J
R 1906	(DEH-P4350/X1N/ES)	RS1/16S2R2J
R 1909	(DEH-P4350/X1N/ES)	RS1/16S151J
	(DEH-P3350/X1N/ES)	RS1/16S201J
R 1910		RS1/16S121J
R 1911		RS1/16S121J
R 1912		RS1/16S121J
R 1913		RS1/16S121J
R 1914		RS1/16S121J
R 1915		RS1/16S121J
R 1916		RS1/16S121J
R 1917		RS1/16S131J
R 1918		RS1/16S151J
R 1919		RS1/16S131J
R 1920		RS1/16S131J
R 1927		RS1/16S472J
R 1929		RS1/16S0R0J
R 1930		RS1/16S101J
R 1931		RS1/16S101J
R 1933	(DEH-P4350/X1N/ES)	RS1/16S161J
	(DEH-P3350/X1N/ES)	RS1/16S201J
R 1935		RS1/16S393J
R 1936		RS1/16S131J
R 1938		RS1/16S151J
R 1939		RS1/16S131J
R 1941		RS1/16S131J

====Circuit Symbol and No.==Part Name

Part No.

R	1942		RS1/16S131J
R	1943		RS1/16S131J
R	1945		RS1/16S121J
R	1946		RS1/16S0R0J
R	1949		RS1/16S151J

## CAPACITORS

C	1902		CKSRYB104K16
C	1903	(DEH-P4350/X1N/ES)	CSZS100M6R3
C	1905		CKSRYB104K16
C	1906		CKSRYB104K16
C	1907		CKSRYB104K16
C	1923		CKSQYB104K16
C	1924	(DEH-P4350/X1N/ES)	CKSRYB104K16
C	1930		CKSQYB104K16



Unit Number : CWM7681(DEH-P3350B/X1N/ES)  
Unit Name : Keyboard Unit

## MISCELLANEOUS

IC	1903	IC	PD6294A
Q	1905	Transistor	DTC114EU
D	1901	Chip Diode	MA151WK
D	1902	Chip Diode	MA151WA
D	1903	LED	CL170SRCD
D	1913	LED	NSSW440-9159
D	1914	LED	NSSW440-9159
D	1915	LED	NSSW440-9159
D	1916	LED	NSSW440-9159
X	1901	Radiator 5.00MHz	CSS1423
S	1901	Push Switch	CSG1135
S	1902	Push Switch	CSG1135
S	1903	Push Switch	CSG1135
S	1904	Push Switch	CSG1135
S	1905	Push Switch	CSG1133
S	1906	Push Switch	CSG1135
S	1908	Push Switch	CSG1133
S	1909	Push Switch	CSG1133
S	1910	Push Switch	CSG1133
S	1911	Push Switch	CSG1133
S	1912	Push Switch	CSG1133
S	1913	Push Switch	CSG1133
S	1914	Push Switch	CSG1133
S	1915	Push Switch	CSG1133
S	1916	Push Switch	CSG1135
S	1917	Push Switch	CSG1135
S	1918	Push Switch	CSG1135
S	1919	Push Switch	CSG1135
S	1920	Push Switch	CSG1111
S	1922	Switch	CSD1061

LCD(DEH-P3350B/X1N/ES)

CAW1679

## RESISTORS

R	1900		RS1/16S473J
R	1901		RS1/10S222J
R	1902		RS1/10S222J
R	1903		RS1/16S470J
R	1904		RS1/16S470J
R	1909		RS1/16S221J
R	1910		RS1/16S161J
R	1911		RS1/16S161J
R	1912		RS1/16S161J
R	1913		RS1/16S161J
R	1914		RS1/16S161J
R	1915		RS1/16S161J
R	1916		RS1/16S161J
R	1917		RS1/16S131J
R	1918		RS1/16S151J

====Circuit Symbol and No.==Part Name

Part No.

R	1919		RS1/16S131J
R	1920		RS1/16S131J
R	1927		RS1/16S472J
R	1929		RS1/16S0R0J
R	1930		RS1/16S101J

R	1931		RS1/16S101J
R	1933		RS1/16S201J
R	1935		RS1/16S393J
R	1937		RS1/16S151J
R	1938		RS1/16S151J
R	1941		RS1/16S131J
R	1944		RS1/16S151J
R	1945		RS1/16S0R0J
R	1946		RS1/16S0R0J
R	1949		RS1/16S151J

## CAPACITORS

C	1902		CKSRYB104K16
C	1905		CKSRYB104K16
C	1906		CKSRYB104K16
C	1907		CKSRYB104K16
C	1921		CKSQYB104K16
C	1922		CKSQYB104K16
C	1925		CKSQYB104K16
C	1926		CKSQYB104K16



Unit Number : CWM7375  
Unit Name : Panel Unit

## MISCELLANEOUS

D	1950	LED	CL220PGC
S	1950	Push Switch	CSG1112

## RESISTORS

R	1952		RS1/16S101J
R	1953		RS1/16S101J



Unit Number : CWX2411  
Unit Name : Control Unit


## MISCELLANEOUS

IC	201	IC	UPD63711GC
IC	301	IC	BA5985FM
IC	701	IC	BA05SFP
Q	101	Transistor	2SB1132
D	801	Chip LED	CL203IRXTU
D	802	Chip LED	CL203IRXTU
X	201	Ceramic Resonator 16.934MHz	CSS1456
S	801	Spring Switch(HOME)	CSN1051
S	802	Spring Switch(CLAMP)	CSN1052

## RESISTORS

R	101		RS1/8S120J
R	102		RS1/8S100J
R	103		RS1/16S222J
R	201		RS1/16S104J
R	202		RS1/16S103J
R	203		RS1/16S393J
R	204		RS1/16S103J
R	205		RS1/16S103J
R	206		RS1/16S182J
R	207		RS1/16S123J
R	302		RS1/16S153J
R	303		RS1/16S103J
R	501		RS1/16S102J
R	502		RA4C681J
R	601		RS1/16S102J

====Circuit Symbol and No.==Part Name	Part No.
R 602	RS1/16S102J
R 605	RS1/16S0R0J
R 606	RS1/16S0R0J
R 801	RS1/8S751J
R 803	RS1/8S751J
R 902	RS1/16S0R0J
R 906	RS1/16S0R0J
CAPACITORS	
C 101	CKSRYB102K50
C 102	CKSRYB104K16
C 103	CEV101M6R3
C 104	CEV470M6R3
C 105	CKSQYB334K16
C 106	CKSQYB334K16
C 107	CKSQYB334K16
C 201	CKSRYB104K16
C 202	CKSRYB471K50
C 203	CKSRYB104K16
C 205	CEV101M6R3
C 206	CKSRYB104K16
C 207	CKSRYB104K16
C 208	CKSRYB104K16
C 209	CKSRYB104K16
C 210	CKSRYB332K50
C 211	CKSRYB104K16
C 212	CKSRYB104K16
C 213	CKSRYB392K50
C 214	CKSRYB104K16
C 215	CKSRYB104K16
C 216	CCSRCJ3R0C50
C 217	CCSRCH270J50
C 218	CKSRYB104K16
C 219	CCSRCH181J50
C 220	CCSRCH510J50
C 221	CKSRYB682K25
C 222	CEV220M6R3
C 223	CKSRYB103K25
C 224	CKSRYB224K10
C 301	CEV101M10
C 603	CCSQSL152J50
C 604	CCSQSL152J50
C 702 10μF/10V	CCH1349
C 703	CKSQYB334K16

====Circuit Symbol and No.==Part Name	Part No.
 Unit Number :	
Unit Name : Photo Unit(S8)	
Q 1 Photo-transistor	CPT230SX-TU
Q 2 Photo-transistor	CPT230SX-TU
Miscellaneous Parts List	
M Pickup Unit(Service)(P8)	CXX1285
M 1 Motor Unit(CARRIAGE)	CXB2190
M 2 Motor Unit(LOADING)	CXB2195
M 3 Motor Unit(SPINDLE)	CXB2562



## 6. ADJUSTMENT

### 6.1 CD ADJUSTMENT

#### 1) Precautions

- This unit uses a single power supply (+5V) for the regulator. The signal reference potential, therefore, is connected to REFO(approx. 2.5V) instead of GND.

If REFO and GND are connected to each other by mistake during adjustments, not only will it be impossible to measure the potential correctly, but the servo will malfunction and a severe shock will be applied to the pick-up. To avoid this, take special note of the following.

Do not connect the negative probe of the measuring equipment to REFO and GND together. It is especially important not to connect the channel 1 negative probe of the oscilloscope to REFO with the channel 2 negative probe connected to GND.

Since the frame of the measuring instrument is usually at the same potential as the negative probe, change the frame of the measuring instrument to floating status.

If by accident REFO comes in contact with GND, immediately switch the regulator or power OFF.

- Always make sure the regulator is OFF when connecting and disconnecting the various filters and wiring required for measurements.
- Before proceeding to further adjustments and measurements after switching regulator ON, let the player run for about one minute to allow the circuits to stabilize.
- Since the protective systems in the unit's software are rendered inoperative in test mode, be very careful to avoid mechanical and /or electrical shocks to the system when making adjustment.
- Disc detection during loading and eject operations is performed by means of a photo transistor in this unit. Consequently, if the inside of the unit is exposed to a strong light source when the outer casing is removed for repairs or adjustment, the following malfunctions may occur.

\*During PLAY, even if the eject button is pressed, the disc will not be ejected and the unit will remain in the PLAY mode.

\*The unit will not load a disc.

When the unit malfunctions this way, either re-position the light source, move the unit or cover the photo transistor.

#### 2) Test Mode

This mode is used for adjusting the CD mechanism module of the device.

- Test mode starting procedure  
Reset while pressing the 4 and 6 keys together.
- Test mode cancellation  
Switch ACC, back-up OFF.
- After pressing the EJECT key, do not press any other key until the disk is completely ejected.
- If the ► or ◀ key is pressed while focus search is in progress, immediately turn the power off (otherwise the actuator may be damaged due to adhesion of the lenses).
- Jump operation of TRs other than 100TR continues after releasing the key. CRG move and 100TR jump operations are brought into the "Tracking close" status when the key is released.
- Powering Off/On resets the jump mode to "Single TR (91)", the RF AMP gain setting to 0 dB, and the automatic adjustment value to the initial value.



## 6.2 CHECKING THE GRATING AFTER CHANGING THE PICKUP UNIT

### • Note :

The grating angle of the PU unit cannot be adjusted after the PU unit is changed. The PU unit in the CD mechanism module is adjusted on the production line to match the CD mechanism module and is thus the best adjusted PU unit for the CD mechanism module. Changing the PU unit is thus best considered as a last resort. However, if the PU unit must be changed, the grating should be checked using the procedure below.

### • Purpose :

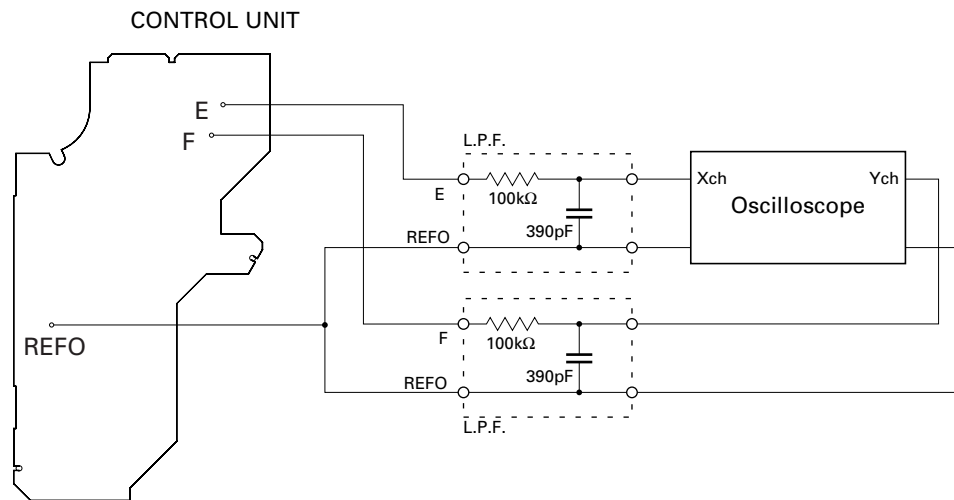
To check that the grating is within an acceptable range when the PU unit is changed.

### • Symptoms of Mal-adjustment :

If the grating is off by a large amount symptoms such as being unable to close tracking, being unable to perform track search operations, or taking a long time for track searching.

### • Method :

- |                       |                            |
|-----------------------|----------------------------|
| • Measuring Equipment | • Oscilloscope, Two L.P.F. |
| • Measuring Points    | • E, F, REFO               |
| • Disc                | • ABEX TCD-784             |
| • Mode                | • TEST MODE                |



### • Checking Procedure

1. In test mode, load the disc and switch the 5V regulator on.
2. Using the ► and ◀ buttons, move the PU unit to the innermost track.
3. Press key 3 to close focus, the display should read "91". Press key 2 to implement the tracking balance adjustment the display should now read "81". Press key 3 2 times. The display will change, returning to "81" on the fourth press.
4. As shown in the diagram above, monitor the LPF outputs using the oscilloscope and check that the phase difference is within 75°. Refer to the photographs supplied to determine the phase angle.
5. If the phase difference is determined to be greater than 75° try changing the PU unit to see if there is any improvement. If, after trying this a number of times, the grating angle does not become less than 75° then the mechanism should be judged to be at fault.

### • Note

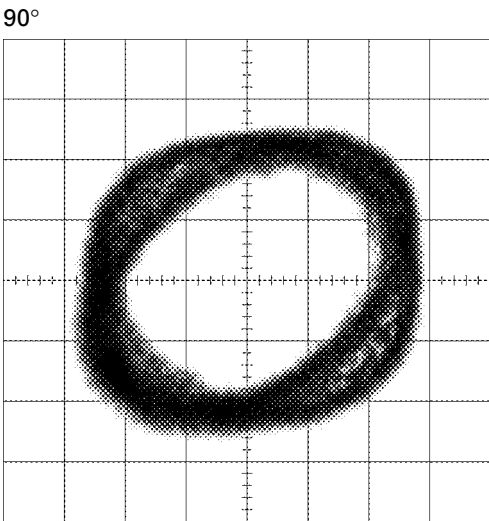
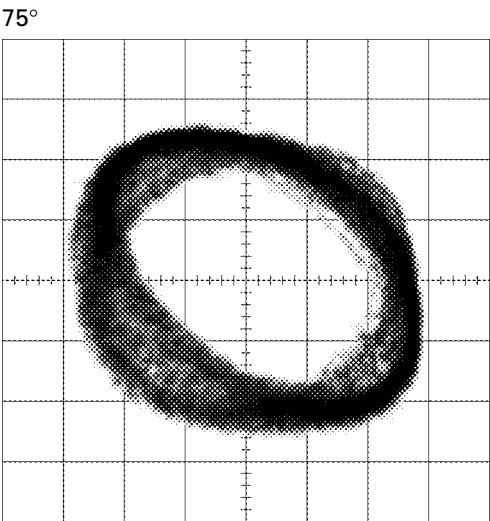
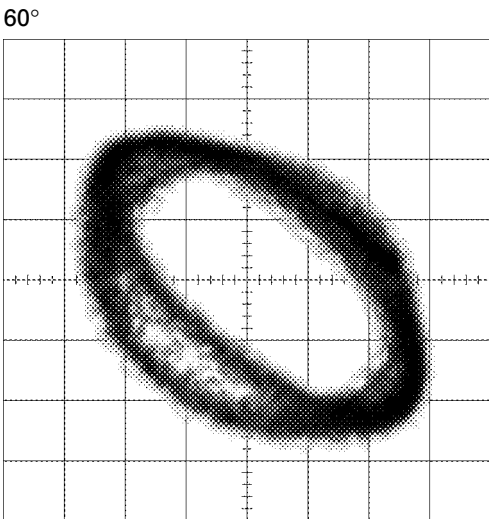
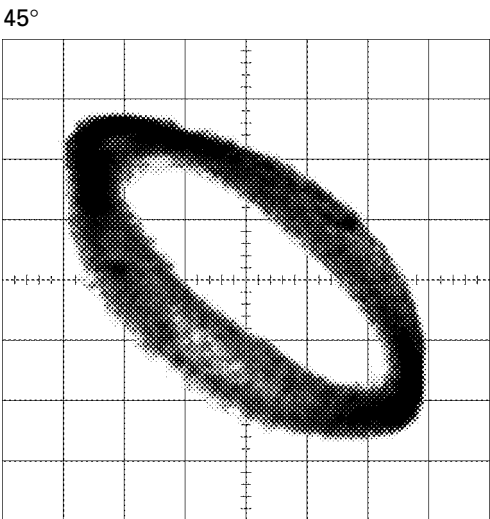
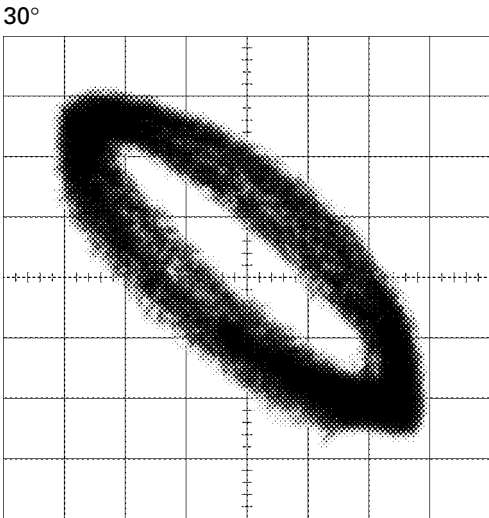
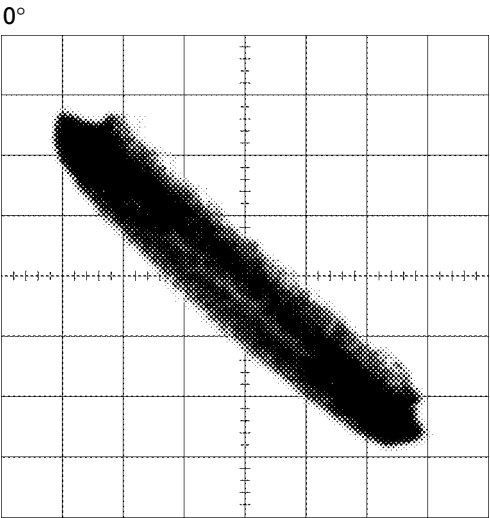
Because of eccentricity in the disc and a slight misalignment of the clamping center the grating waveform may be seen to "wobble" ( the phase difference changes as the disc rotates). The angle specified above indicates the average angle.

### • Hint

Reloading the disc changes the clamp position and may decrease the "wobble".

Grating waveform

Ech → Xch 20mV/div, AC  
Fch → Ych 20mV/div, AC



## 7. GENERAL INFORMATION

### 7.1 DIAGNOSIS

#### 7.1.1 TEST MODE

##### ● Error Messages

If a CD is not operative or stopped during operation due to an error, the error mode is turned on and cause(s) of the error is indicated with a corresponding number. This arrangement is intended at reducing nonsense calls from the users and also for facilitating trouble analysis and repair work in servicing.

##### (1) Basic Indication Method

1) When SERRORM is selected for the CSMOD (CD mode area for the system), error codes are written to DMIN (minutes display area) and DSEC (seconds display area). The same data is written to DMIN and DSEC. DTNO remains in blank as before.

##### 2) Main unit display examples

Depending on display capability of LCD used, display will vary as shown below. xx contains the error number.

8-digit display	6-digit display	4-digit display
ERROR-xx	ERR-xx	E-xx
	OR	
	Err-xx	

##### (2) Error Code List

Code	Class	Displayed error code	Description of the code and potential cause(s)
10	Electricity	Carriage Home NG	CRG can't be moved to inner diameter. CRG can't be moved from inner diameter. → Failure on home switch or CRG move mechanism.
11	Electricity	Focus Servo NG	Focusing not available. → Stains on rear side of disc or excessive vibrations on REWRITABLE.
12	Electricity	Spindle Lock NG	Spindle not locked. Sub-code is strange (not readable). → Failure on spindle, stains or damages on disc, or excessive vibrations.
		Subcode NG	A disc not containing CD-R data is found. Turned over disc are found, though rarely.
		RF AMP NG	→ Failure on home switch or CRG move mechanism. An appropriate RF AMP gain can't be determined. → CD signal error.
17	Electricity	Setup NG	APC protection doesn't work. Focus can be easily lost. → Damages or stains on disc, or excessive vibrations.
30	Electricity	Search Time Out	Failed to reach target address. → CRG tracking error or damages on disc.
A0	System	Power Supply NG	Power (VD) is ground faulted. → Failure on SW transistor or power supply (failure on connector).

Remarks: Mechanical errors are not displayed (because a CD is turned off in these errors).

Unreadable TOC does not constitute an error. An intended operation continues in this case.

A newly designed main unit must conform to the example given above.

Upper digits of an error code are subdivided as shown below:

1x: Setup relevant errors, 3x: Search relevant errors, 3x: Search relevant errors, Ax: Other errors.

## ● New Test Mode

S-CD plays the same way as before.

If an error such as off focus, spindle unlocking, unreadable sub-code, or sound skipping occurs after setup, its cause and time occurred (in absolute time) are displayed.

During setup, operational status of the control software (internal RAM: CPOINT) is displayed.

These displays and functions are prepared for enhancing aging in the servicing and efficiency of trouble analysis.

### (1) Shifting to the New Test Mode

- ① Turn on the current test mode.
  - ② Select S-CD for the source through the specified procedure including use of the [SOURCE] key, and inserting the disc. Then, press the [ 6 ] key while maintaining the regulator turned off.
  - ③ After the above operations, the new test mode remains on irrespective of whether the S-CD is turned on or off.
- You can reset the new test mode by turning on the reset start.

\* With some products, the new test mode can be reset through the same operations as that employed for shifting to the STBY mode (while maintaining the Acc turned off).

### (2) Key Correspondence

Key	Test mode		New test mode	
	Power Off	Power On	In-play	Error Production
BAND	To power on (offset adjustment performed)	To power off	–	Time/Err.No. switching
▶	–	FWD-Kick	FF/TR+	–
◀	–	REV-Kick	REV/TR-	–
1	–	T.Close (AGC performed) /parameter display switching	Scan	–
2	RF AMP gain switching	Parameter display switching /T.BAL adjustment/T.Open	Mode	–
3	To power on (offset adjustment not performed)	F.Close/RF AGC/F.T.AGC	–	–
6	–	F.Mode switching /T.Close (no AGC)/Jump switching	Auto/Manu	T.No./Time switching

Note: Eject and CD on/off is performed in the same procedure as that for the normal mode.

### (3) Cause of Error and Error Code

Code	Class	Contents	Description and cause
40	Electricity	Off focus detected.	FOK goes low. → Damages/stains on disc, vibrations or failure on servo.
41	Electricity	Spindle unlocked.	FOK = Low continued for 50 msec. → Damages/stains on disc, vibrations or failure on servo.
42	Electricity	Sub-code unreadable.	Sub-code was unreadable for 50 msec. → Damages/stains on disc, vibrations or failure on servo.
43	Electricity	Sound skipping detected.	Last address memory function was activated. → Damages/stains on disc, vibrations or failure on servo.

Note: Mechanical errors during aging are not displayed.

The error codes should be indicated in the same way as in the normal mode.

## (4) Display of Operational Status (CPOINT) during Setup

Status No.	Contents	Protective action
00	CD+5V ON process in progress.	None
01	Servo LSI initialization (1/3) in progress.	None
02	Servo LSI CRAM initialization in progress.	None
03	Servo LSI initialization (2/3) in progress.	None
04	Offset adjustment (1/3) in progress.	None
05	Offset adjustment (2/3) in progress.	None
06	Offset adjustment (3/3) in progress.	None
07	FZD adjustment in progress.	None
08	Servo LSI initialization (3/3) in progress.	None
10	Carriage move to home position started.	None
11	Carriage move to home position started.	None
12	Carriage is moving toward inner diameter.	Specified 10 seconds has been passed or failure on home switch.
13	Carriage is moving toward outer diameter.	Specified 10 seconds has been passed or failure on home switch.
14	Carriage outer kick in progress.	None
15	Carriage outer diameter feed (1 second) in progress.	None
20	Servo close started.	None
21	Pre-processing for focus search started.	None
22	Spindle rotation and focus search started.	None
23	Waiting for focus close (XSI=Low).	Specified focus search time has been passed.
24	Standing by after focus close is over.	Specified focus search time has been passed.
25	Focus search preprocessing is in progress while setup protection is turned on.	None
26	Focus search preprocessing is in progress while focus recovery is turned on.	None
27	Wait time after focus close is set up.	Off focus.
28	Standing by after focus close is over.	Off focus.
29	Setup (1/2) before T balance adjustment is started.	Off focus.
30	Setup (2/2) before T balance adjustment is started.	Off focus.
31	T balance adjustment started.	Off focus.
32	T balance adjustment (1/2).	Off focus.
33	T balance adjustment (2/2).	Off focus.
34	Waiting for spindle rotation to end. Spindle rough servo.	Off focus.
35	Standing by after spindle rough servo is over.	Off focus.
36	RF AGC started.	Off focus.
37	RF AGC started.	Off focus.
38	RF AGC ending process in progress.	Off focus.
39	Tracking close in progress.	Off focus.
40	Standing by after tracking is closed. Carriage closing in progress.	Off focus.
41	Focus/tracking AGC started.	Off focus.
42	Focus AGC started.	Off focus.
43	Focus AGC in progress.	Off focus.
44	Tracking AGC in progress.	Off focus.
45	Standing by after focus/tracking AGC are over.	Off focus.
46	Spindle processes applicable servo.	Off focus.
47	Check for servo close is started.	Off focus.
48	Check of LOCK pin started.	Off focus or spindle not locked.
49	RF AGC started.	Off focus.
50	RF AGC in progress.	Off focus.
51	Standing by after RF AGC is over.	Off focus.

(5) Display Examples

1) During Setup (When status no. = 11)

TRK No.	MIN.	SEC.
11	11'	11"

2) During Operation (TOC read, TRK search, Play, FF and REV)

The same as in the normal mode.

3) When a Protection Error Occurred

Switch to the following displays (A) and (B) using the [BAND] switch:

(A) Error occurrence timing display in absolute time.

An example: Error occurred in 12th tune at 34'56" in absolute time.

TRK No.	MIN.	SEC.
12	34'	56"

(B) Error No. display

An example: Error #40 (Off focus is detected)

ERROR-40



## 7.1.2 DISASSEMBLY

### ● Removing the Case (not shown)

1. Remove the Case.

### ● Removing the CD Mechanism Module (Fig.1)

- 1 Remove the four screws.

Disconnect the connector and then remove the CD Mechanism Module.

### ● Removing the Grille Panel Assy (Fig.1)

- 2 Remove the two screws and then remove the Grille Panel Assy.

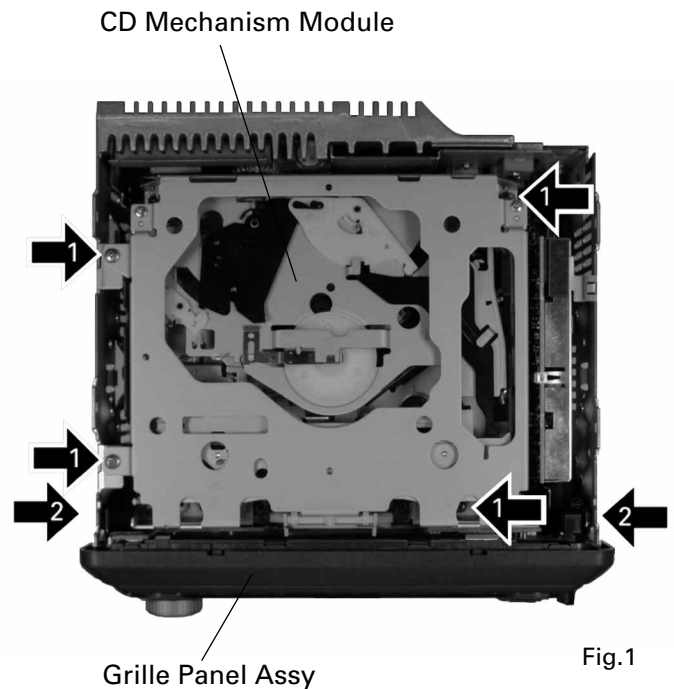


Fig.1

### ● Removing the Tuner Amp Unit (Fig.2)

- 1 Remove the two screws.
- 2 Straight the tabs at three locations indicated.
- 3 Remove the screw.
- 4 Remove the three screws and then remove the Tuner Amp Unit.

\*) Tuner Amp Unit is different partially from this photo.

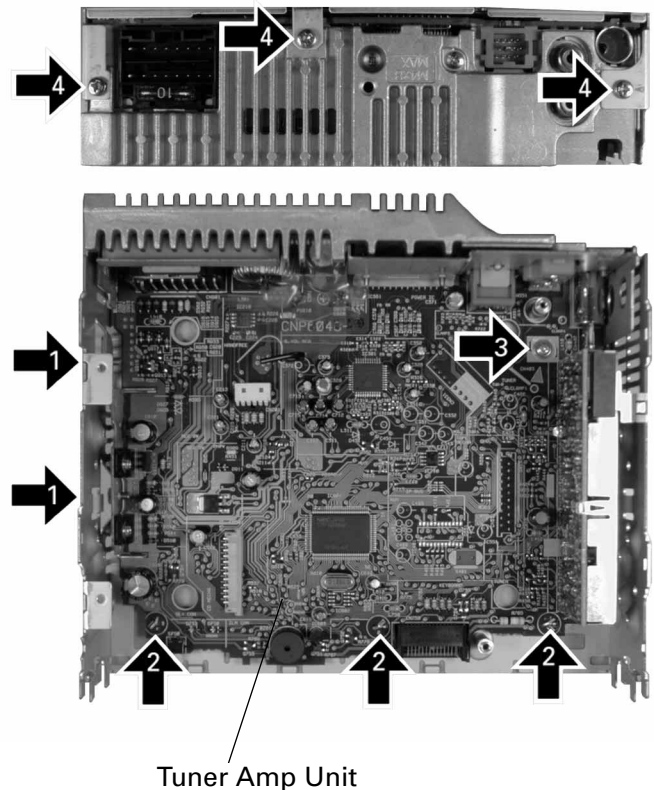
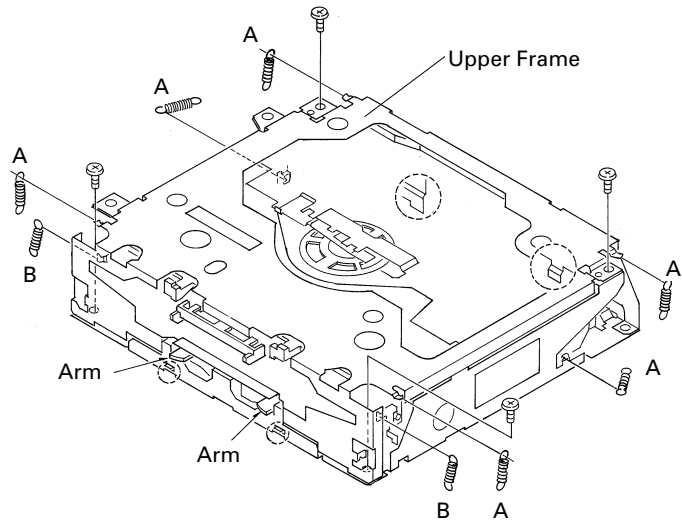


Fig.2

### ● Removing the Upper Frame

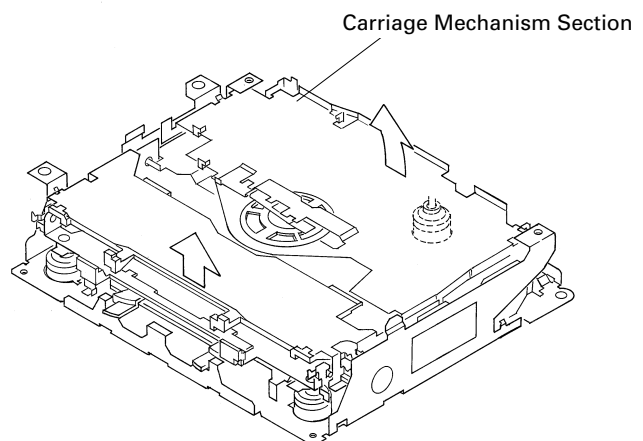
1. Remove six Springs A, two Springs B and four Screws.
2. Remove two Tabs situated on rear side of the Upper Frame, remove two Arms on the front side, then remove two Tabs on the front side.



### ● Removing the Carriage Mechanism

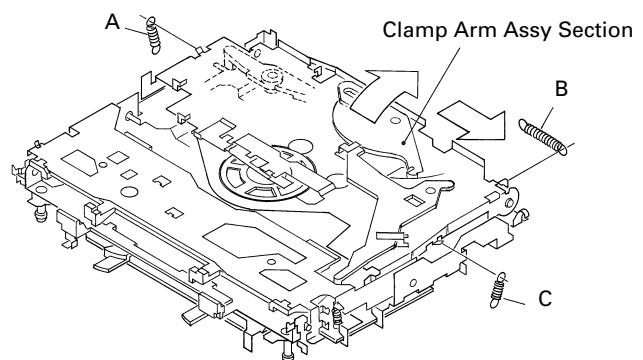
1. Disengage the Carriage Mechanism from the two dampers situated in the front side by driving it up, then disengage and remove the mechanism from the two dampers by driving it up aslant into front side direction.

Note : When assembling the Carriage Mechanism, coat the dampers with alcohol prior to the assembly.



### ● Removing the Clamp Arm Assy

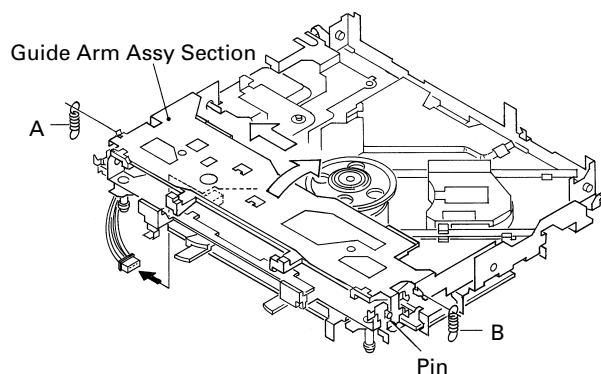
1. Remove a Spring A, a B and a Spring C.
2. Drive the Clamp Arm Assy up into rear side direction, then disengage the arm from its current position. Finally, drive the assembly approximately 45 degrees upward, then slide the assembly toward right side to remove it.



### ● Removing the Guide Arm Assy

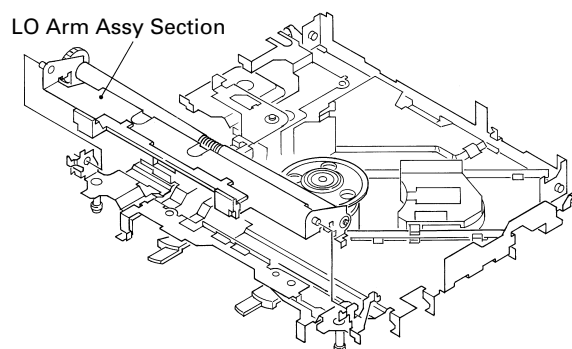
1. Remove a connector, a spring A and B
2. Drive the Guide Arm Assy up aslant into rear side direction, then remove it from a Pin. Finally, drive the assembly approximately 45 degrees upward, then slide the assembly toward left side to remove it.

Note : When assembling the guide arm assembly, route the cord inside the assembly. In this operation, care must be exercised so that cord may be caught by the gear.



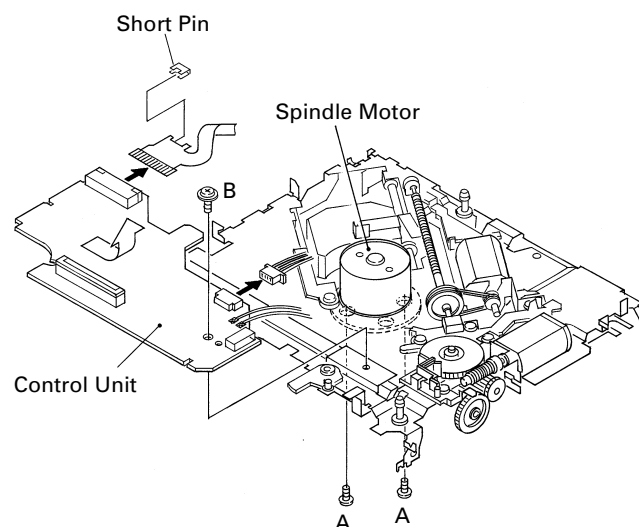
### ● Removing the LO Arm Assy

1. Remove two Pins to dismount the LO Arm Assy.



### ● Removing the Control Unit and the Spindle Motor

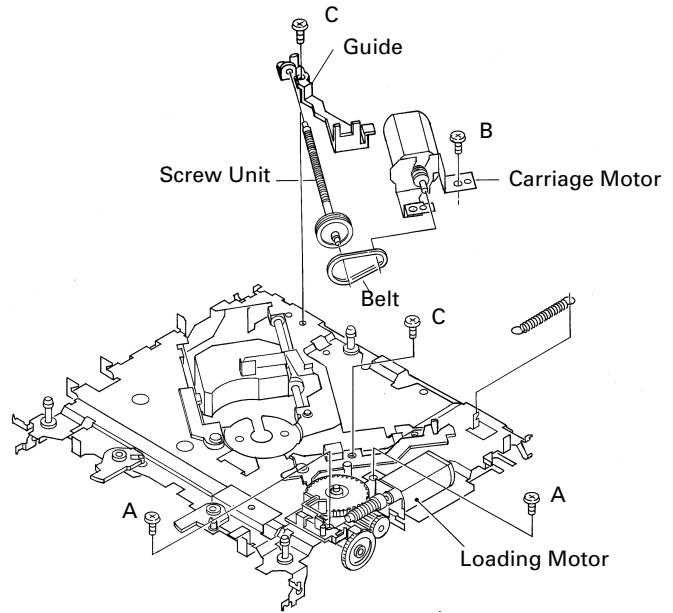
1. Remove from the connector after mounting the short pin on the flexible PCB of the pickup unit.
2. Remove two Soldered joints, then remove two Screws A.
3. Remove two connectors and a Screw B.
4. Disengage the Control Unit from two Tabs, then dismount the unit by sliding it toward left.
5. Dismount the Spindle Motor.



## ● Removing the Loading Motor and Carriage Motor

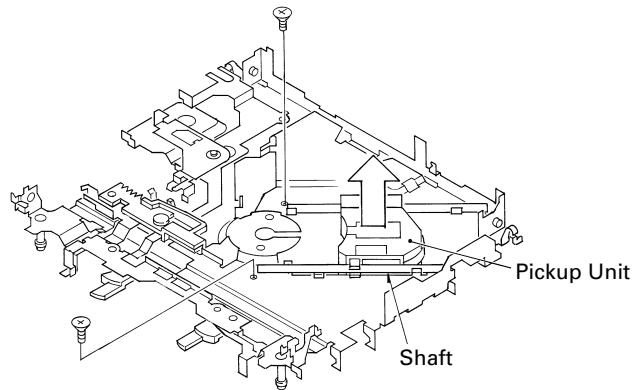
1. Remove the Spring and two Screws A.
2. Dismount the Loading Motor.
3. Remove the Belt, a Screw B, two Screws C, a Guide and a Screw Unit.
4. Dismount the Carriage Motor.

Note : When assembling the Belt, use care so that it may not be contaminated by grease.

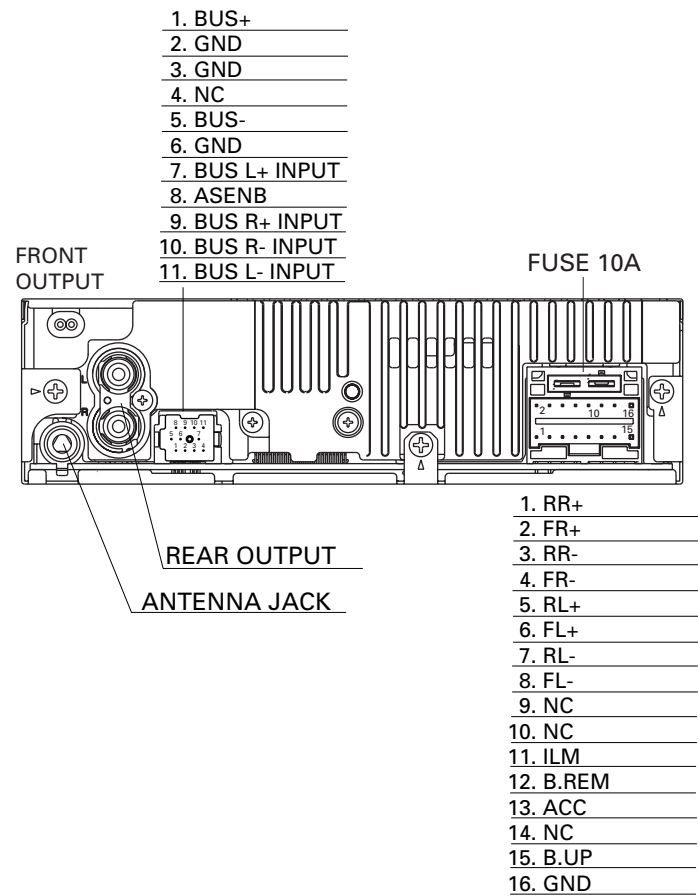


## ● Removing the Pickup Unit

1. Remove two Screws and a Shaft.
2. Dismount the Pickup Unit.

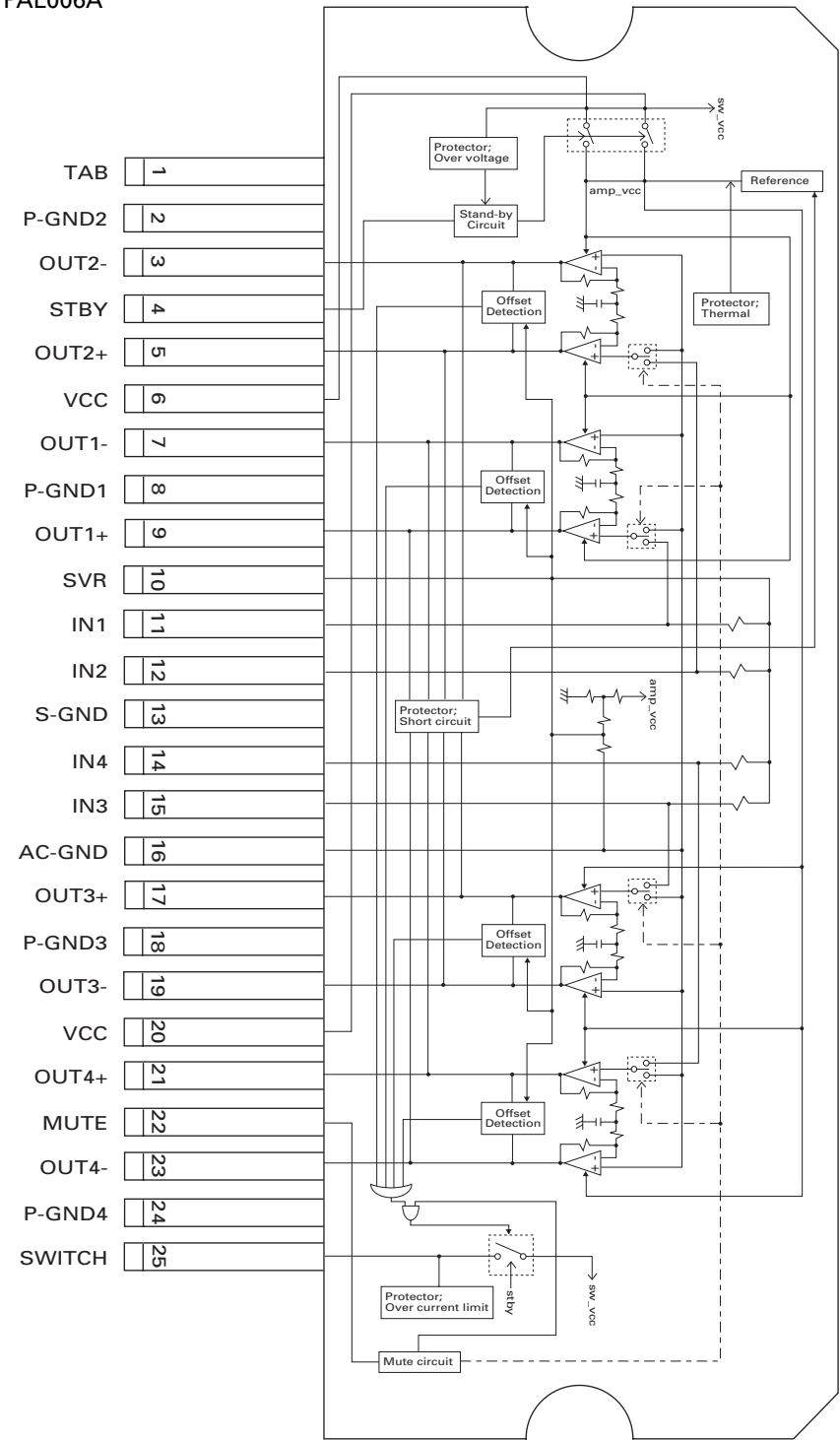


7.1.3 CONNECTOR FUNCTION DESCRIPTION

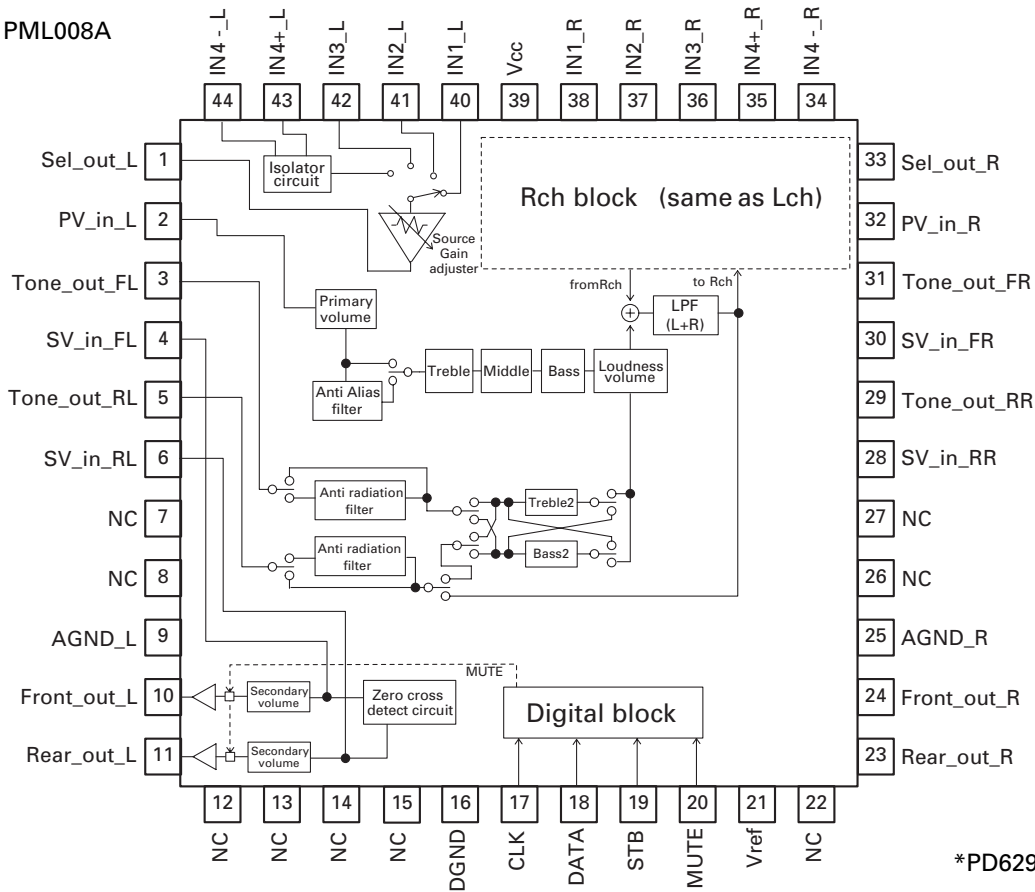


7.2 PARTS  
7.2.1 IC

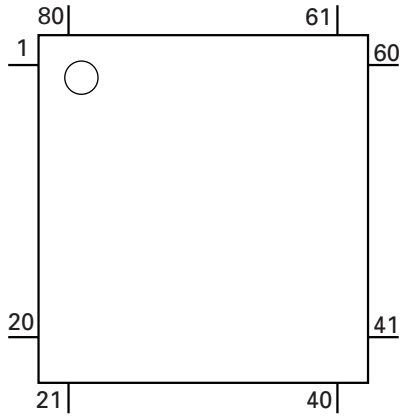
PAL006A



PML008A



\*PD6294A



IC's marked by\* are MOS type.  
Be careful in handling them because they are very liable  
to be damaged by electrostatic induction.

● Pin Functions (PD6294A)

Pin No.	Pin Name	I/O	Function and Operation
1	VSS		GND
2	X1		Crystal oscillator connection pin
3	X0		Crystal oscillator connection pin
4	NC		Not used
5,6	MOD1,0	I	Connect to GND
7	DIMMER	O	Dimmer select output
8	KYDT	O	Key data output
9	DPDT	I	Display data input
10	REMIN	I	Remote control pulse input
11	GRN		Dual Illumination (Green)
12	AMB		Dual Illumination (Amber)
13-16	KD4-1	I	Key data input
17-22	KST6-1	O	Key strobe output
23	VDD		VDD
24-73	SEG49-0	O	LCD segment output
74-77	COM3-0	O	LCD common output
78	VLCD	I	LCD voltage input
79,80	V2,1		Power supply terminal

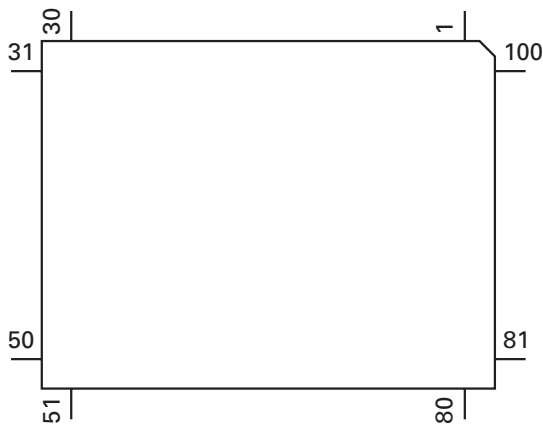
## ● Pin Functions (PE5203A)

Pin No.	Pin Name	I/O	Function and Operation
1	NC		Not used
2	$\overline{\text{DSENS}}$	I	Grille detach sense input
3	NC		Not used
4	EJECTIN	I	Eject sense input
5	TESTIN	I	Test program mode input
6	LCDPW	O	LCD back light power supply control output
7	TELIN	I	Telephone mute input
8	$\overline{\text{ISENS}}$	I	Illumination sense input
9	FLPILM	O	Flap illumination input
10	DALMON		For consumption low-current
11	$\overline{\text{RESET}}$	I	Reset input
12	NC		Not used
13	XT1		Clock connection pin
14	VSS(GND)		GND
15	X2		Crystal oscillator connection pin
16	X1		Crystal oscillator connection pin
17	REGOFF		Regulator operation specification signal
18	REGC		Capacitor for regulator connect pin
19	VDD		Power supply
20	ILMPW	O	Illumination power supply control output
21	SYSPW	O	System power control output
22	$\overline{\text{ADPW}}$	O	A/D converter power supply control output
23	SWVDD	O	Grille:Chip enable output
24	IPPW	O	Power supply control output for IP BUS interface IC
25	ROT1	I	Rotary input 1
26	ROMDATA	O	ROM collection data output
27,28	NC		Not used
29	ROT0	I	Rotary input 0
30,31	NC		Not used
32	$\overline{\text{PCE2}}$	O	EEPROM chip enable output
33	STB	O	Strobe pulse output for electronic volume
34	CLK	O	Clock output for electronic volume
35	DATA	O	Data output for electronic volume
36	NC		Not used
37	MUTE	O	System mute output
38	SD	I	Station detector input
39	ST	I	FM stereo input
40	VSS(GND)		GND
41	VDD		Power supply
42-49	NC		Not used
50	LOCL	O	Local L output
51	LOCH	O	Local H output
52	NC		Not used
53	EJECT	O	CD:Load motor eject output
54	LOCK	I	CD:Disc spindle lock input
55	CD5VON	O	CD:+5V power supply control output
56	$\overline{\text{CLAMP}}$	I	CD:Disc clamp input
57	VDCONT	O	CD:VD power control output
58	NC		Not used
59	FOK	I	CD:Focus OK signal input
60,61	NC		Not used
62	PCL		Clock adjustment
63	CONT	O	CD:Servo driver power supply control output
64	CDLOAD	O	CD:LOAD motor loading control output
65	$\overline{\text{XSCK}}$	O	CD:LSI clock output
66	XSI	I	CD:LSI data input
67	XSO	O	CD:LSI data output
68	XA0	O	CD:LSI command / data control output

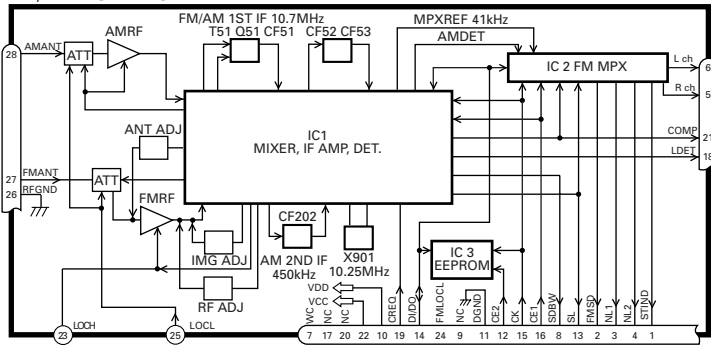


Pin No.	Pin Name	I/O	Function and Operation
69	$\overline{\text{XRST}}$	O	CD:LSI reset control output
70	$\overline{\text{XSTB}}$	O	CD:LSI strobe output
71	ASENBO	O	IP-BUS:Slave power supply control output
72	MUTE	O	E.VOL:Mute control output
73	TEST(GND)	I	GND
74	SL	I	TUNER:Signal level input
75	NC		Not used
76	MODELIN	I	Model select input
77	CSENS	I	Flap close sense input
78-80	NC		Not used
81	TEMP	I	CD:Temperature sense input
82	AVDD		A/D converter power supply terminal
83	AVREF		A/D converter reference voltage terminal
84	AVSS		GND
85	RX	I	IP-BUS:data input
86	TX	O	IP-BUS:data output
87	NMI		GND
88-91	NC		Not used
92	$\overline{\text{ASENS}}$	I	ACC power sense input
93	$\overline{\text{BSENS}}$	I	Back up power sense input
94	TUNPDI	I	PLL IC data input
95	KYDT	I	Grille data input
96	DPDT	O	Grille data output
97	PCK	O	PLL IC clock output
98	PDO	O	PLL IC data output
99	PCE	O	PLL IC chip enable output
100	PEE	O	Beep tone output

\*PE5203A



FM/AM TUNER UNIT



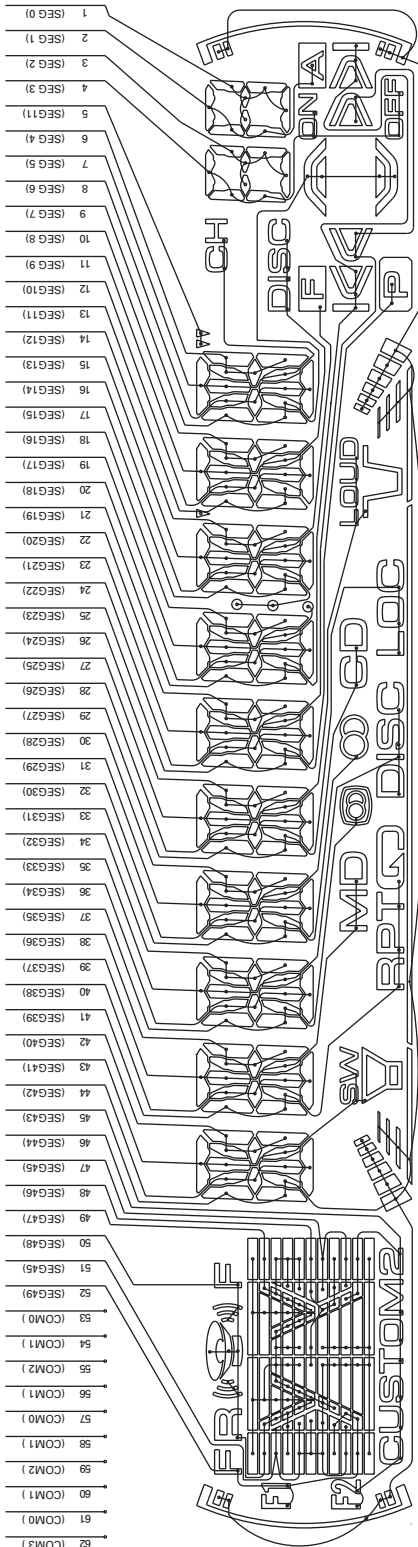
## Pin Functions

No.	Symbol	I/O	Explain	
1	STIND	O	stereo indicator	"Low" when the FM stereo signals are received. To be pulled up to the "VDD" at 47kΩ.
2	FMSD	O	FM station detector	"High" when signals are received. To be pulled up to the "VDD" at 47kΩ Meanwhile, 10kΩ should be used when taking diver FIX trigger from here and "High: 0.9VDD or more" and "Low: 250mV or less". (Should satisfy the diver IC specifications)
3	NL1	O	noise level-1	"High" when noise is received. Output for the RDS. GND at 47kΩ //1,800pF.
4	NL2	O	noise level-2	"High" when noise is received. Output for the RDS. GND at 36kΩ //330pF.
5	Rch	O	R channel output	FM stereo "R-ch" signal output or AM audio output. Add the specified di-emphasis constant.
6	Lch	O	L channel output	FM stereo "L-ch" signal output or AM audio output. Add the specified di-emphasis constant.
7	WC		write control	EEPROM write control. Writing permissible at "Low". Normally open.
8	SDBW	O	SD bandwidth	SD bandwidth signal output. For detection of detuning data for the RDS.
9	NC			Not used
10	VDD		power supply	Power supply pin for the digital section. D.C. 5V +/- 0.25V. Be careful about overlapping noise in the logic section.
11	DGND		digital ground	Grounding for the digital section.
12	CE2	I	chip enable-2	EEPROM chip enable. Active a "Low" To be pulled up to the "VDD" at 47kΩ
13	SL	I/O	signal level	Received FM/AM signal level (strength) output. Connect the specified load resistor and capacitor (10k Ω + 39k Ω //4,700pF)
14	DI/DO	I/O	data input/ data output	Data input/Data output To be pulled up to the "VDD" at 47kΩ
15	CK	I	clock	Clock input To be pulled up to the "VDD" at 47kΩ
16	CE1	I	chip enable-1	AF·RF chip enable. Active at "High" To be grounded at 47kΩ
17	NC			Not used
18	LDET	O	lock detector	Active at "Low". To be pulled up to the "VDD" at 47kΩ
19	CREQ	I	current request	Active at "Low". To be grounded at 47kΩ
20	NC			Not used
21	COMP	O	composite signal	FM composite signal output. r out < 100Ω
22	VCC		power supply	Analog section power supply pin.D.C.8.4V +/- 0.3V
23	LOCH	I	local high	FM local high pin. When seeking local high, apply 5V together with "LOCL".
24	FMLOCL	I	FM local low	FM local low pin. When seeking local low, apply 5V to the base of the NPN transistor with which the specified resistor is being connected to the emitter. Keep it open in case of ordinary marketed models.
25	LOCL	I	local low	FM/AM local low pin. When seeking local low, apply 5V to the base of the NPN transistor. Since this pin is exclusive for AM when the FMLOCL is in use, do not drive it under FM.
26	RFGND		RF ground	Grounding for the antenna section.
27	FMANT	I	FM antenna input	FM antenna input. 75Ω. Serge absorber (DSP-201M-S00B) is necessary.
28	AMANT	I	AM antenna input	AM antenna input. High impedance. Connect to the antenna through an L (LAU type) of 4.7μH.To cope with the power transmission line hums, insert a series circuit consisting of an L (a coil of about 100mH) + R (a resistor of 470 Ω to 2.2kΩ) between the GND.

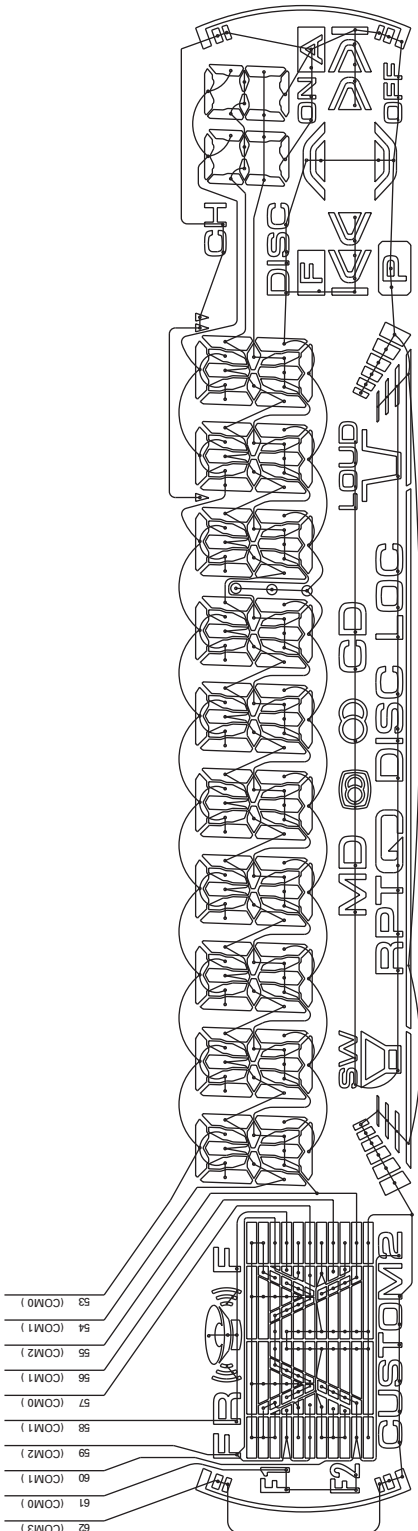
7.2.2 DISPLAY

● CAW1626(DEH-P4350/X1N/ES), CAW1628(DEH-P3350/X1N/ES), CAW1679(DEH-P3350B/X1N/ES)

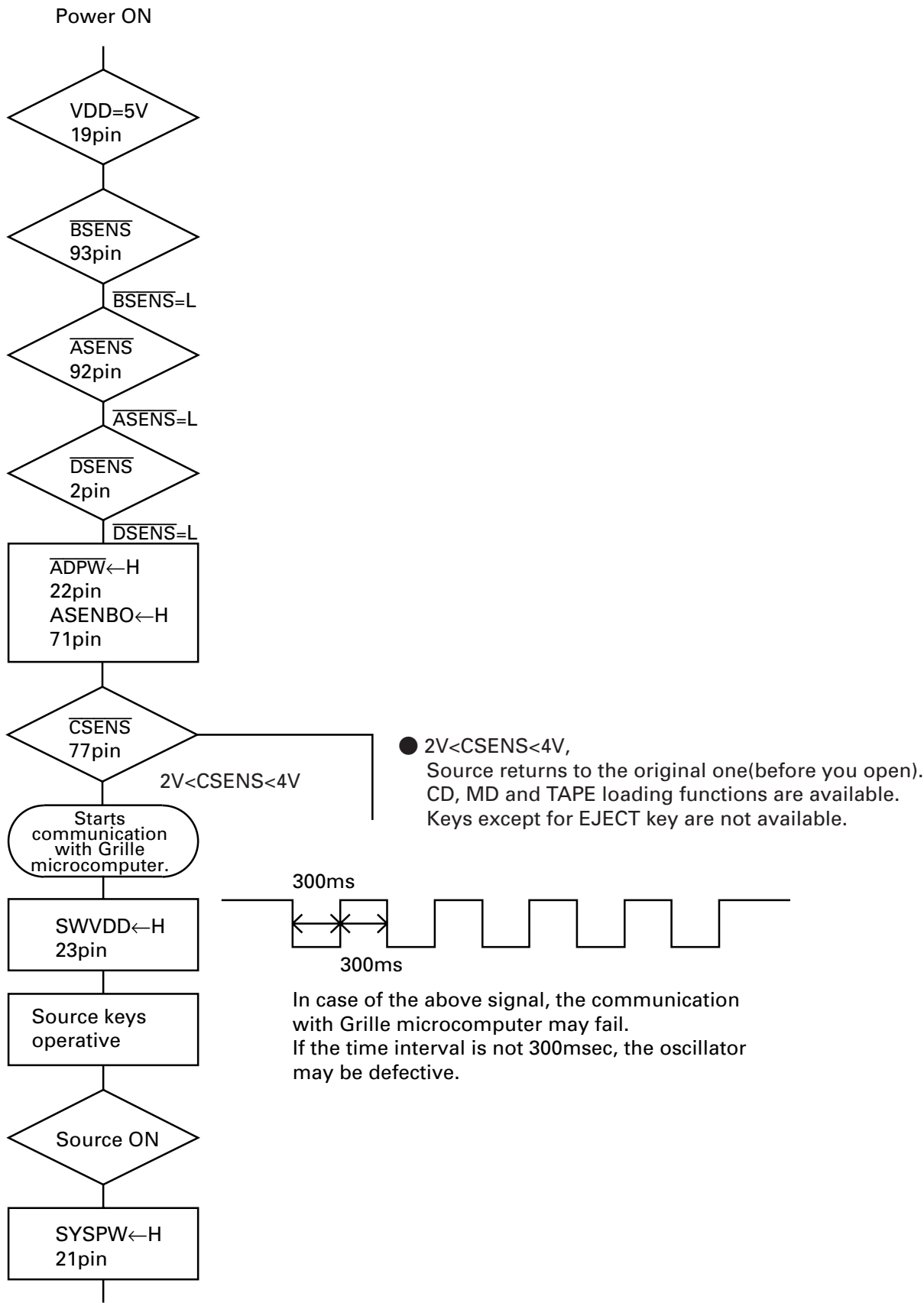
SEGMENT



COMMON



7.3 OPERATIONAL FLOW CHART



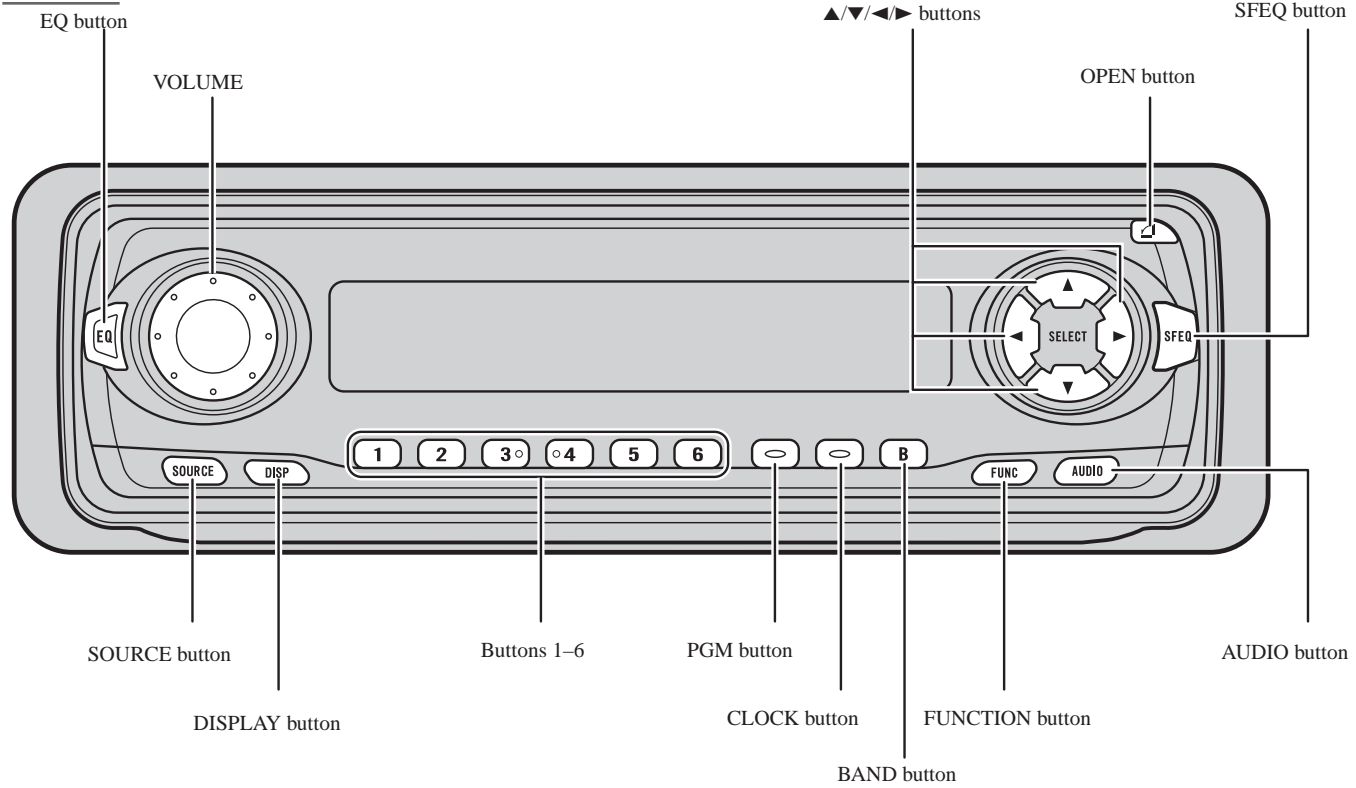
Completes power-on operation.  
(After that, proceed to each source operation)

8. OPERATIONS AND SPECIFICATIONS

8.1 OPERATIONS

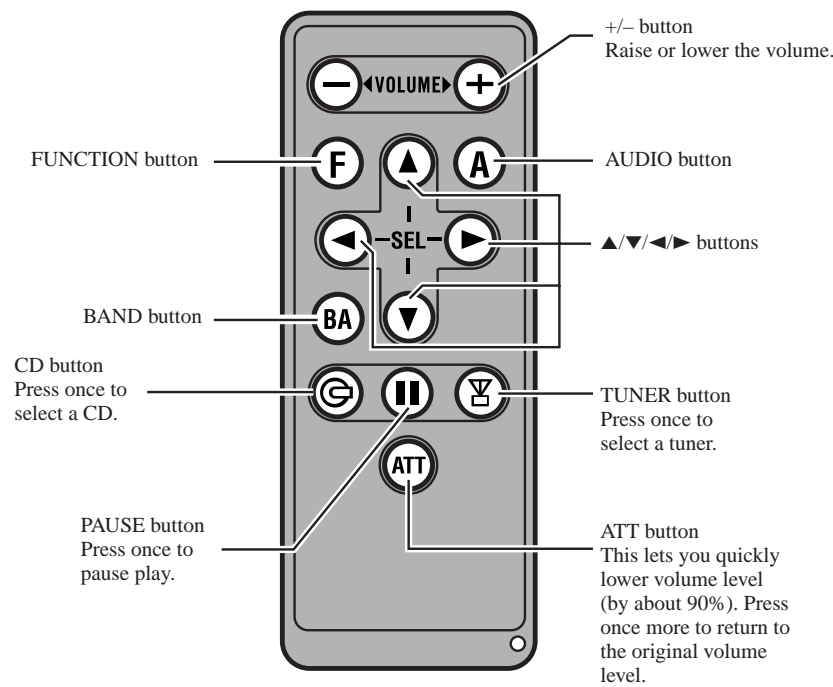
Key Finder

Head Unit



Remote Controller (DEH-P4350)

DEH-P4350 is equipped with a remote controller for convenient operation. Operation is the same as when using buttons on the head unit.

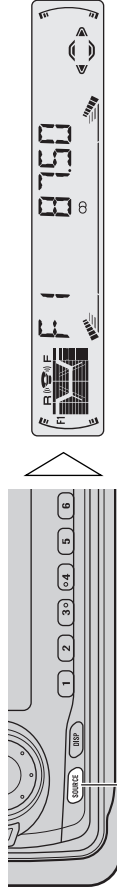


The following explains the initial operations required before you can listen to music.

#### Note:

- Loading a disc in this product.

### 1. Select the desired source. (e.g. Tuner)



Each press changes the Source ...

#### ■ Head Unit

Each press of the SOURCE button selects the desired source in the following order:  
Built-in CD player → TV → Tuner → Multi-CD player → External Unit → AUX

#### ■ Remote Controller (DEH-P4350)

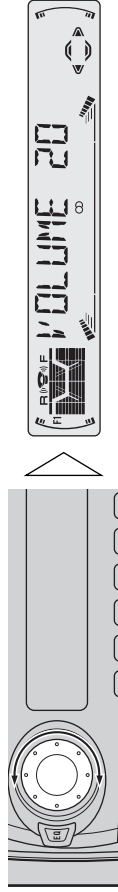
Each press of the button selects the desired source in the following order:

TUNER button : TV → Tuner → OFF  
CD button : Built-in CD player → Multi-CD player → OFF

#### Note:

- External Unit refers to a Pioneer product (such as one available in the future) that, although incompatible as a source, enables control of basic functions by this product. Only one External Unit can be controlled by this product.
- In the following cases, the sound source will not change:
  - When a product corresponding to each source is not connected to this product.
  - When no disc is set in this product.
  - When no magazine is set in the Multi-CD player.
  - When the AUX (external input) is set to OFF.
- When this product's blue/white lead is connected to the car's Auto-antenna relay control terminal, the car's Auto-antenna extends when this product's source is switched ON. To retract the antenna, switch the source OFF.

### 2. Raise or lower the volume.

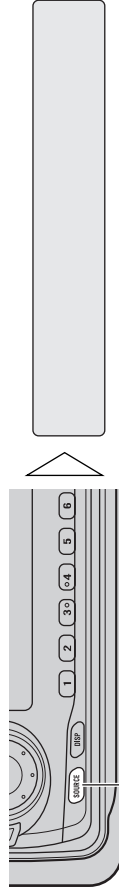


Rolling the VOLUME changes the volume level.

#### Note:

- Roll clockwise to raise the volume level.
- Roll counterclockwise to lower the volume level.

### 3. Turn the source OFF.



Hold for 1 second

## Basic Operation of Tuner

Reset the AM tuning step from 9 kHz (the factory preset step) to 10 kHz when using the tuner in North, Central or South America.

### Manual and Seek Tuning

- You can select the tuning method by changing the length of time you press the ◀/▶ button.

Manual Tuning (step by step) 0.5 seconds or less

Seek Tuning 0.5 seconds or more

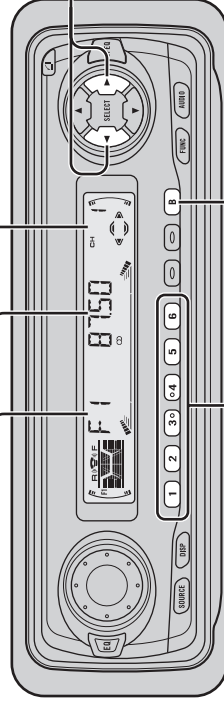
#### Note:

- If you continue pressing the button for longer than 0.5 seconds, you can skip broadcasting stations. Seek Tuning starts as soon as you release the button.
- Stereo indicator "Ⓢ" lights when a stereo station is selected.

#### Frequency Indicator

#### Band Indicator

#### Preset Number Indicator



### Preset Tuning

- You can memorize broadcast stations in buttons 1 through 6 for easy, one-touch station recall.

Preset station recall 2 seconds or less

Broadcast station preset memory 2 seconds or more

#### Note:

- Up to 18 FM stations (6 in F1 (FM1), F2 (FM2) and F3 (FM3)) and 6 AM stations can be stored in memory.
- You can also use the ▲ or ▼ buttons to recall broadcast stations memorized in buttons 1 through 6.

#### Band

F1 (FM1) → F2 (FM2)  
→ F3 (FM3) → AM

# Basic Operation

## Basic Operation of Built-in CD Player

- Note:**
- Be sure to close the front panel after loading or ejecting a disc.

### Switching the Display

Each press of the DISPLAY button changes the display in the following order:  
Playback mode (Play time)  
→ Disc Title

- Note:**
- If you switch displays when disc titles have not been input, "NO TITLE" is displayed.

### Open

- Note:**
- Use to open the front panel when loading or ejecting a CD. (The illustration on the right shows the front panel open.)

### Track Number Indicator

### Play Time Indicator



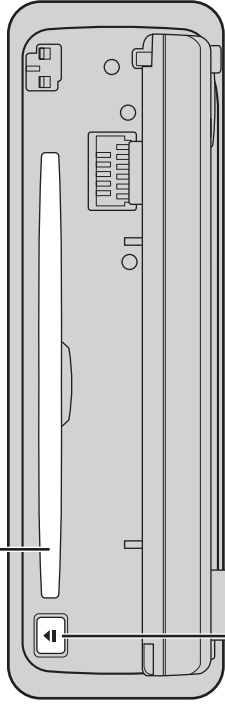
### Track Search and Fast Forward/Reverse

- You can select between Track Search or Fast Forward/Reverse by pressing the ◀/▶ button for a different length of time.

Track Search	0.5 seconds or less
Fast Forward/Reverse	Continue pressing

### CD Loading Slot

- Note:**
- The Built-in CD player plays one standard 12 cm or 8 cm (single) CD at a time. Do not use an adapter when playing 8 cm CD.
  - Do not insert anything other than a CD into the CD Loading Slot.



### Eject

- Note:**
- The CD function can be turned ON/OFF with the disc remaining in this product.
  - A disc left partially inserted after ejection may incur damage or fall out.

**Note:**

- If a disc cannot be inserted fully or playback fails, make sure the recorded side is down. Press the EJECT button and check the disc for damage before reinserting it.
- If the Built-in CD player cannot operate properly, an error message (such as "ERROR-14") appears on the display.
- The Built-in CD player is not equipped with CD TEXT function.
- A CD TEXT disc is a CD featuring recorded text information such as Disc Title, Artist Name and Track Title.



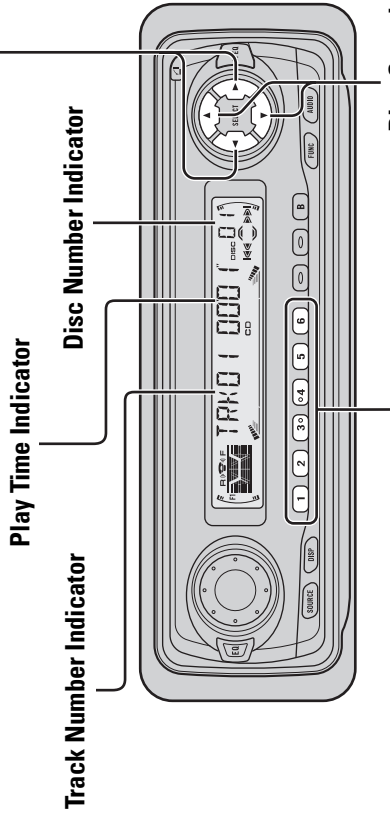
Basic Operation of Multi-CD Player

This product can control a Multi-CD player (sold separately).

Track Search and Fast Forward/Reverse

- You can select between Track Search or Fast Forward/Reverse by pressing the ◀/▶ button for a different length of time.

Track Search	0.5 seconds or less
Fast Forward/Reverse	Continue pressing



Disc Number Search (for 6-Disc, 12-Disc types)

- You can select discs directly with the 1 to 6 buttons. Just press the number corresponding to the disc you want to listen to.

Note:

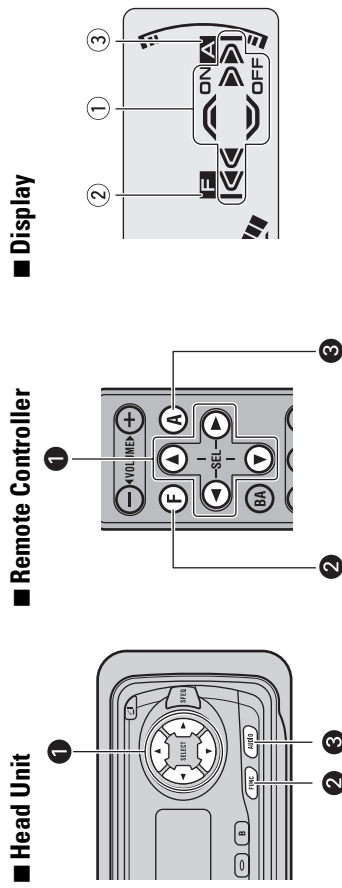
- When a 12-Disc Multi-CD Player is connected and you want to select disc 7 to 12, press the 1 to 6 buttons for 2 seconds.

Note:

- The Multi-CD player may perform a preparatory operation, such as verifying the presence of a disc or reading disc information, when the power is turned ON or a new disc is selected for playback. "READY" is displayed.
- If the Multi-CD player cannot operate properly, an error message such as "ERROR-14" is displayed. Refer to the Multi-CD player owner's manual.
- If there are no discs in the Multi-CD player magazine, "NO DISC" is displayed.

Corresponding Display Indications and Buttons

This product's display features Key Guidance Indicators. These light to indicate which of the ▲▼/◀▶, FUNCTION and AUDIO buttons you can use. When you're in the Function Menu, Detailed Setting Menu, Initial Setting Menu or Audio Menu, they also make it easy to see which ▲▼/◀▶ buttons you can use to switch functions ON/OFF, switch repeat selections and perform other operations. Indicator and corresponding buttons are shown below.



When ① is lit in the display, perform appropriate operations with the ① buttons. When ② is lit in the display, it indicates that you are in the Function Menu, Detailed Setting Menu or Initial Setting Menu. You can switch between each of these menus and between different modes in the menus using button ② on the head unit or remote controller. When ③ is lit in the display, it indicates you are in the Audio Menu. You can switch between modes in the Audio Menu using button ③ on the head unit or remote controller.

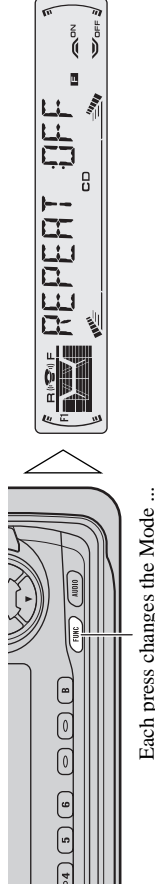
Entering the Function Menu

The Function Menu lets you operate simple functions for each source.

Note:

- After entering the Function Menu, if you do not perform an operation within about 30 seconds, the Function Menu is automatically canceled.

1. Select the desired mode in the Function Menu.





Continued overleaf.




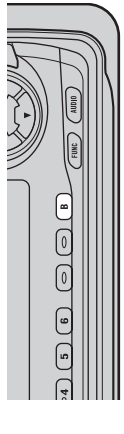
**Basic Operation**

2. Operate a mode. (e.g. Repeat Play)



The button used and the operation it performs are indicated by the key guidance indicator. Press the ▲ button to switch the key guidance indicator ON, and the ▼ button to switch it OFF.

3. Cancel the Function Menu.




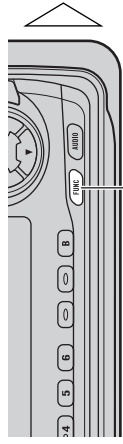
**Function Menu Functions**

The following chart shows functions for each source in the Function Menu. The chart also shows indications for each function, operations and buttons used to perform operations.

**Entering the Detailed Setting Menu**


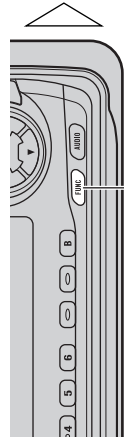
In the Detailed Setting Menu, you can operate convenient, complex functions for each source.

1. Enter the Detailed Setting Menu.



Hold for 2 seconds


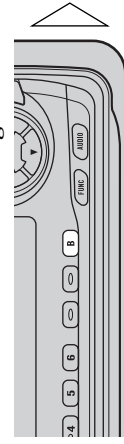
2. Select the desired mode.



Each press changes the Mode ...

3. Operate a mode.

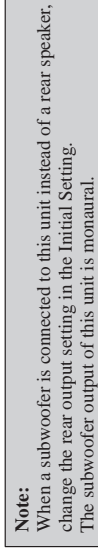
4. Cancel the Detailed Setting Menu.



**Note:**

- You can cancel the Detailed Setting Menu by pressing the FUNCTION button again for 2 seconds.

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## 8.2 SPECIFICATIONS

### General

Power source	14.4 V DC (10.8 – 15.1 V allowable)
Grounding system	Negative type
Max. current consumption	10.0 A
Dimensions	
(DIN) (chassis)	178 (W) × 50 (H) × 157 (D) mm
(nose)	188 (W) × 58 (H) × 19 (D) mm
(D) (chassis)	178 (W) × 50 (H) × 162 (D) mm
(nose)	170 (W) × 46 (H) × 14 (D) mm
Weight	1.5 kg
Backup current	5mA

### Amplifier

Continuous power output	is 22 W per channel min. into 4 ohms, both channels driven 50 to 15,000 Hz with no more than 5% THD.
Maximum power output	50 W × 4 50 W × 2 ch/4 $\Omega$ + 70 W × 1 ch/2 $\Omega$ (for Subwoofer)
Load impedance	4 $\Omega$ (4 – 8 $\Omega$ [2 $\Omega$ for 1 ch] allowable)
Preout maximum output level/ output impedance	2.2 V/1 k $\Omega$
Equalizer (3-Band Parametric Equalizer)	
(Low)	Frequency: 40/80/100/160 Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: $\pm 12$ dB
(Mid)	Frequency: 200/500/1k/2k Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: $\pm 12$ dB
(High)	Frequency: 3.15k/8k/10k/12.5k Hz Q Factor: 0.35/0.59/0.95/1.15 (+6 dB when boosted) Level: $\pm 12$ dB
Loudness contour	
(Low)	+3.5 dB (100 Hz), +3 dB (10 kHz)
(Mid)	+10 dB (100 Hz), +6.5 dB (10 kHz)
(High)	+11 dB (100 Hz), +11 dB (10 kHz) (volume: -30 dB)
Tone controls	
(Bass)	Frequency: 40/63/100/160 Hz Level: $\pm 12$ dB
(Treble)	Frequency: 2.5k/4k/6.3k/10k Hz Level: $\pm 12$ dB
Subwoofer output	
Frequency	50/80/125 Hz
Slope	-12 dB/oct.
Gain	$\pm 12$ dB

### CD player

System	Compact disc audio system
Usable discs	Compact disc
Signal format	Sampling frequency: 44.1 kHz Number of quantization bits: 16; linear
Frequency characteristics	5 – 20,000 Hz ( $\pm 1$ dB)
Signal-to-noise ratio	94 dB (1 kHz) (IEC-A network)
Dynamic range	92 dB (1 kHz)
Number of channels	2 (stereo)

### FM tuner

Frequency range	87.5 – 108 MHz
Usable sensitivity	9 dBf (0.8 $\mu$ V/75 $\Omega$ , mono, S/N: 30 dB)
50 dB quieting sensitivity	15 dBf (1.5 $\mu$ V/75 $\Omega$ , mono)
Signal-to-noise ratio	70 dB (IEC-A network)
Distortion	0.3% (at 65 dBf, 1 kHz, stereo)
Frequency response	30 – 15,000 Hz ( $\pm 3$ dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

### AM tuner

Frequency range	531 – 1,602 kHz (9 kHz) 530 – 1,640 kHz (10 kHz)
Usable sensitivity	18 $\mu$ V (S/N: 20 dB)
Selectivity	50 dB ( $\pm 9$ kHz) 50 dB ( $\pm 10$ kHz)

### Note:

- Specifications and the design are subject to possible modification without notice due to improvements.